Public health and its contexts in northern Ghana, 1900-2000

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Declaration for SOAS PhD thesis

I have read and understood Regulation 21 of the General and Admissions Regulations for students of the SOAS, University of London concerning plagiarism. I undertake that all the material presented for examination is my own work and has not been written for me, in whole or in part, by any other person. I also undertake that any quotation or paraphrase from the published or unpublished work of another person has been duly acknowledged in the work which I present for examination.

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ABSTRACT

This is a study of the long-term political economy of public health work in northern Ghana, and of the contingent application of medical knowledge under different political regimes. Covering the period from 1900 to 2000, the thesis asks how the north and its people's enduring peripherality – defined in various ways – shaped the evolution of public health institutions and conditioned the state's attention to particular diseases. It assesses key public health transitions across the century, including the creation of the north's Native Authority health system in the 1930s, the entrenchment of church authority for healthcare in the 1950s, and the government's gradual cession of medical oversight to international organisations from the late 1960s, a process which was partially reversed in the late 1990s. It examines specific disease control programmes against sleeping sickness, onchocerciasis, and guinea worm, for what they reveal about the social history of medical work on the margins of the state, and about the political contexts for population-level health interventions. Colonial-era tsetse control inadvertently contributed to the serious prevalence of onchocerciasis in the north at independence, and this high prevalence of onchocerciasis made northern Ghana a focus of international health fundraising ahead of the WHO Onchocerciasis Control Programme, which began in 1974. In the urban south, guinea worm disease was substantially reduced in the early twentieth century, but in the north the disease only received concerted attention from the 1980s. In the historical literature on health in Ghana, there are few studies which adequately disaggregate the north and its particular experiences of public health work. Using sources from northern regional archives, the archives of the World Health Organisation, and interview testimony from government health officials and village communities, the thesis aims to make a contribution to this area.

CONTENTS

LIST OF ILLUSTRATIONS

List of Abbreviations

AFRC	Armed Forces Revolutionary Council
BELRA	British Empire Leprosy Relief Administration
BESB	British Empire Society for the Blind
BMJ	British Medical Journal
CC	Chief Commissioner
CDC	Centers for Disease Control and Prevention
CPP	Convention People's Party
CRO	Chief Regional Officer (designation for Chief Commissioner from 1952)
DANIDA	Danish International Development Agency
DC	District Commissioner
DMS	Director of Medical Services
EPTA	Expanded Programme on Technical Assistance (UN/WHO Programme)
FAO	Food and Agriculture Organisation (UN Agency)
GHS	Ghana Health Service
GWEP	Guinea Worm Eradication Program
MDAR	Medical Department Annual Report
MFU	Medical Field Unit
MO	Medical Officer
MoH	Ministry of Health
MP	Member of Parliament
NA	Native Authority
NGO	Non-Governmental Organisation
NLC	National Liberation Council
NMDC	Netherlands Ministry for Development Cooperation
NORRIP	Northern Region Rural Integrated Programme
NPP	Northern People's Party
NRC	National Redemption Council
NT / NTs	Northern Territories
NTAR	Northern Territories Annual Report
NTC	Northern Territories Council
OCP	Onchocerciasis Control Programme
PMO	Principal Medical Officer
PNDC	Provisional National Defence Council
RCSB	Royal Commonwealth Society for the Blind (now Sightsavers)
SAP	Structural Adjustment Programme
SEP	Smallpox Eradication Programme
SMC	Supreme Military Council
TDR	Special Programme for Research and Training in Tropical Diseases
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
WHO	World Health Organisation

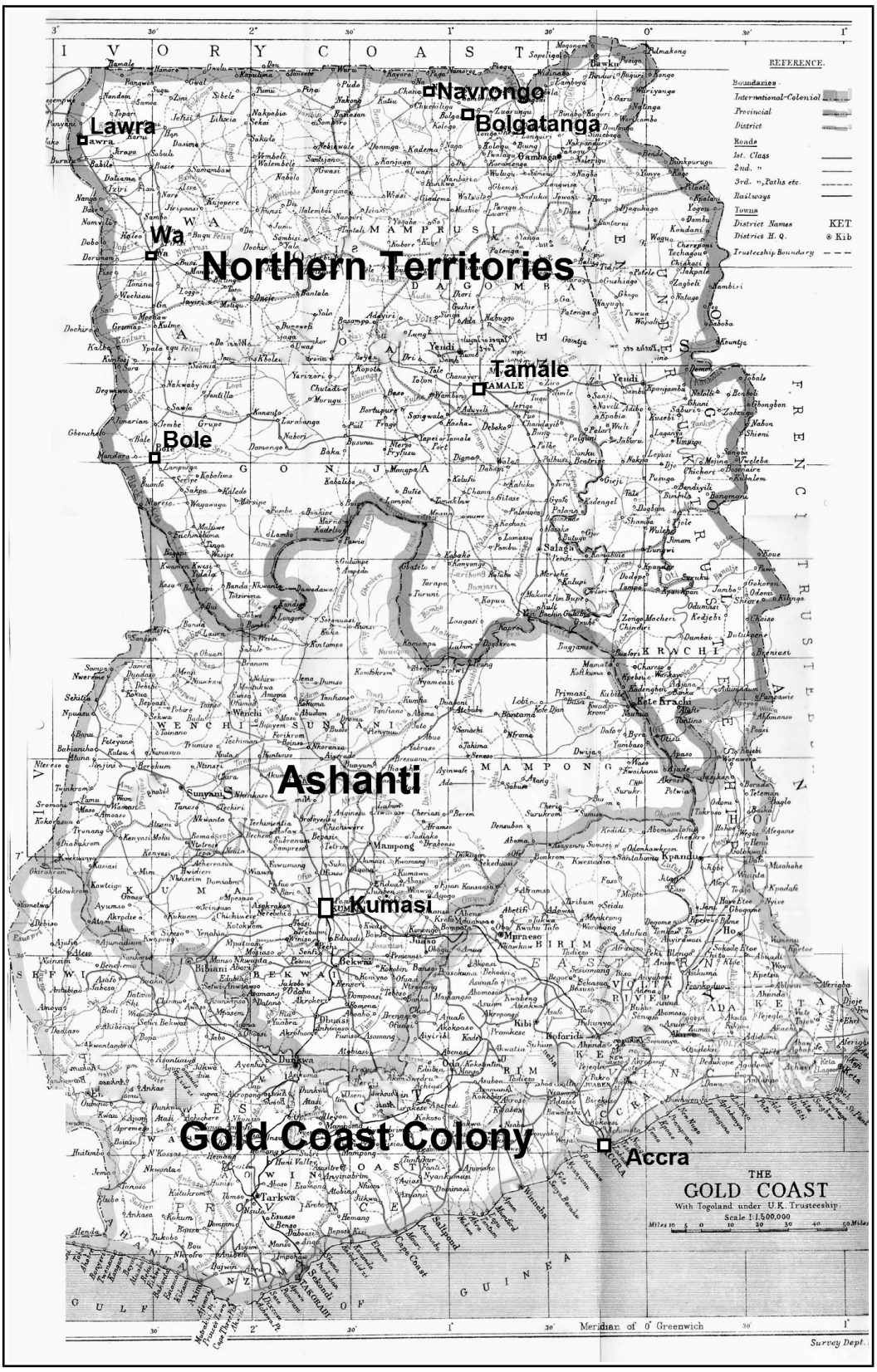


Figure 1. Administrative divisions of the Gold Coast, 1946
Source: Gold Coast Survey Department Map, edited to show settlements
Hosted at: http://www.britishempire.co.uk/images2/goldcoast1946maplarge.jpg, accessed 24 August 2017

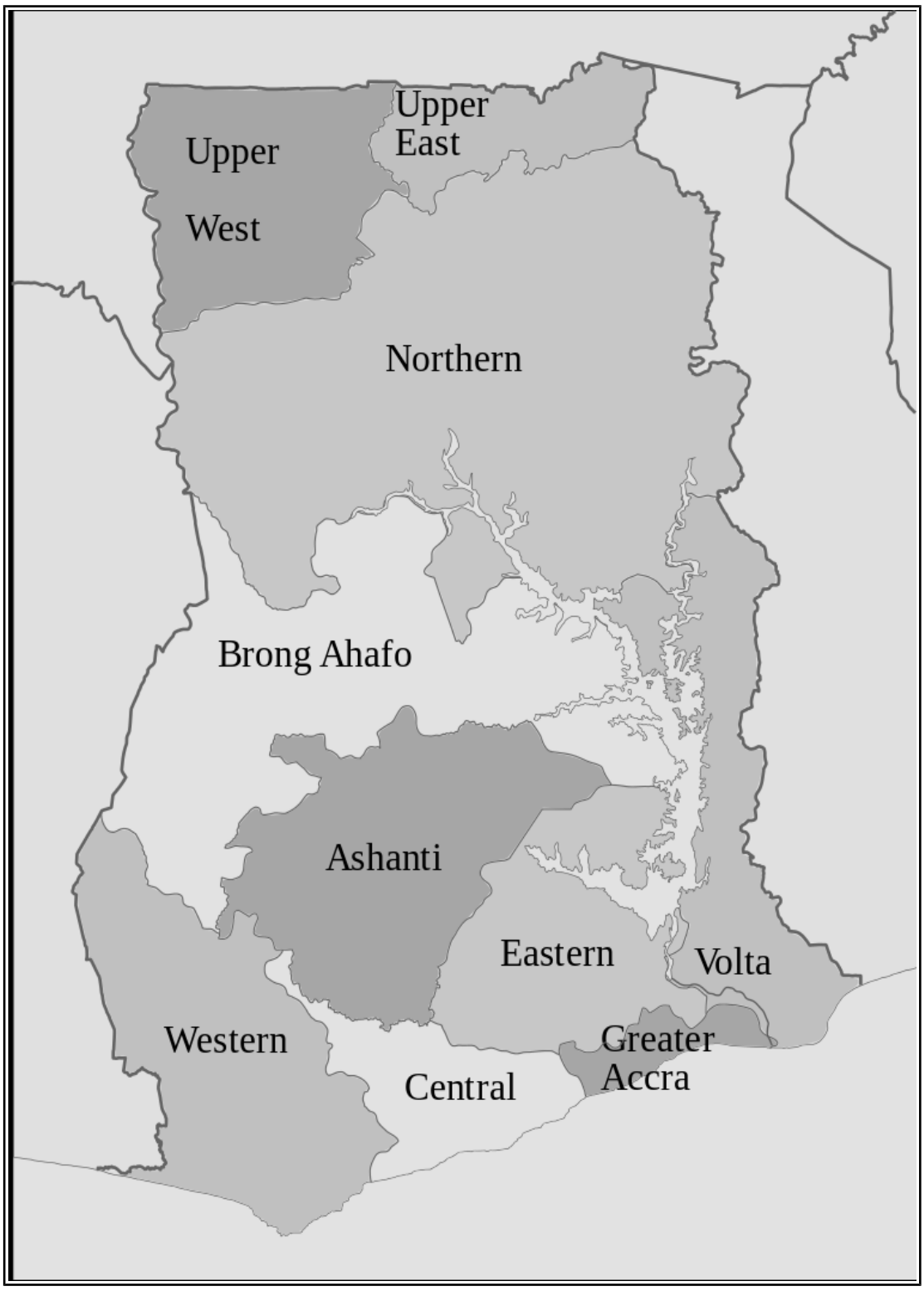


Figure 2. Administrative divisions of Ghana, 2000
Source: Wikimedia Commons

INTRODUCTION

This thesis examines the long-term history of public health work among communities in northern Ghana, a region that has remained on Ghana's geographical, political and economic margins since it was first enclosed as part of the British Gold Coast. Covering the century from 1900 to 2000, it asks how this peripherality conditioned the development of the region's public health institutions over time, and how it shaped research and control programmes related to particular diseases. Conversely, it examines the extent to which healthcare provision and medical advocacy, which linked local practitioners to transnational health organisations, research networks and donor agencies, acted to reconfigure the north's marginal relationship to Ghana's political centres.

The thesis addresses these broad questions about the relationship between public health work and peripherality, conceived of in various ways, through two distinct strands of analysis.[1] Three of the six chapters deal with the evolution of public health institutions in the north. They discuss the allocation of funds and resources from colonial and postcolonial governments based in southern Ghana; the creation, decline, and regeneration of local healthcare infrastructure; the role of local advocacy and particular individuals in shaping the provision of health services to northern peoples;

1 Here and throughout the thesis, unless otherwise indicated, I use the terms 'public health' and 'public health work' in their broadest possible definition, meaning all activities or institutions related to improving health at a community or population level. I use a similarly accommodating definition of 'health system', meaning an interacting network of facilities, organisations, policies and individuals acting on the health of a population, and 'healthcare', meaning facilities and activities aimed at supporting or improving health. Although private clinical healthcare clearly plays an important part in maintaining public health, this thesis is principally concerned with public health activities either carried out directly by the state (even at some remove, through local officials or traditional leaders, for example), or carried out in collaboration with the state (at least notionally, for example in the case of WHO campaigns or church-based healthcare).

and the shifting balance between local, national and transnational sources of medical authority. These chapters are interspersed with a further three chapters that approach public health in northern Ghana from the perspective of specific diseases and their related control programmes, using these as a lens to examine the interplay between medical knowledge and regional peripherality, as mediated by individuals and groupings involved in work against a particular disease. The chapters deal with sleeping sickness (trypanosomiasis), onchocerciasis (sometimes called 'river blindness'), and guinea worm disease (dracunculiasis). For example, I discuss how disease control priorities were determined by local officials working in tension or collaboration with the economic priorities of the central administration, and how these programmes were also shaped by the shifting political concerns of successive colonial and postcolonial governments at Accra, in tension with theories about disease control and public health propounded by transnational health organisations.

In other words, in one group of chapters (Chapters 2, 4 and 6) I focus closely on particular areas of health work, as a way of examining the unstable application of medical knowledge under different economic and political conditions. In the other group of chapters (Chapters 1, 3 and 5), I develop a long-run account of the political economy of public health institutions in northern Ghana.[2] These institutions include physical facilities like hospitals and clinics, networks of people involved in disease surveillance or research, and policies regarding which communities, health practices or diseases would be the chief beneficiaries of state-supported healthcare. Although I have attempted to chart the most significant developments, these chapters

2 Throughout the thesis I use the term 'political economy' in an accommodating, atheoretical and distributional sense, to mean the interplay between sociopolitical and economic factors in shaping a particular situation or outcome. For example, a government decision to allocate funding for the construction of a clinic in a particular district (and not another), or to devote personnel and resources for the control of a disease affecting a certain group of people (and not another), may indicate the prevailing political economy of public health at the time the decision was made.

are not intended to be a comprehensive chronicle of the north's healthcare capacity over time (in terms of the annual construction of new clinics, changing numbers of doctors and nurses, or individual outbreaks of disease, for example). Instead, they examine the relative provision of health services in the north and south over different periods, and account for the influence of national and international events on local healthcare, in a rural inland region which at first glance might appear relatively isolated from developments elsewhere. In Chapter 1, I assess the provision of health services from 1900-1945, from the outset of colonial rule in the north to the end of the Second World War. In Chapter 3, I discuss how public health priorities shifted over the transition to independent rule and under the first postcolonial African government, from 1945 to 1966. In Chapter 5 (1966-2000), I examine how the north's health services were shaped by the successive political disruptions that followed the deposal of Kwame Nkrumah in 1966, and by Ghana's adoption of an IMF-World Bank structural adjustment programme from 1983.

This kind of institutional history is perhaps less immediately engaging, from both a researcher's and reader's perspective, than many other aspects of the history of health in Africa. A principal focus on institutions and policies can elide the finer details of lived experience for both medical practitioners and the recipients of healthcare. I would nevertheless argue that an analysis of institutional change can be valuable, particularly in countries or regions where histories of this kind remain relatively uncommon. When I began this project, I had initially planned to devote all chapters to case studies of particular disease control programmes, and to local regimes for medical research and experimentation in different periods. But in the course of my preliminary research, it became clear that there was no adequate 'foundational' historical account of northern health services on which to base these focused case studies. This stands in

evident contrast to a country like Britain, for example, where there are many available histories of national health policy, the National Health Service, and regional public health institutions. This is largely explained by the extensive funding and support available for historical research in a wealthy country like Britain. But it is also perhaps a product of the rapid evolution of historiographical approaches to health in Africa, which has meant that some aspects of healthcare have received less attention. As a crude summary, it might be said that the materialist histories of the 1970s and early 1980s gave way to cultural or ethnographic histories and discourse analyses from the late 1980s, which have more recently been joined by histories that situate health work in Africa in its global context – by approaching 'public health' as a transnational endeavour, or by examining the informational networks that connected local researchers and physicians to theories and ideas elsewhere. Perhaps because of these rapid transitions, because of the relative difficulty in accessing some postcolonial sources, and because of the predominant direction of research funding towards Western departments where these historiographical approaches had become entrenched, the long-term history of government health institutions in Africa has arguably been of greater interest to economists or development studies researchers than it has to historians, certainly for the postcolonial era.

The three institutional chapters in this thesis cannot claim to be a comprehensive history of northern Ghana's public health institutions. But it is hoped that by bringing together a range of new sources, and by examining key moments of transition across the twentieth century, these chapters make an 'excavatory' contribution towards a history of this kind. During interviews with retired health practitioners in Ghana, it was often emphasised that histories which assess the development of regional health institutions might be useful in the country itself,

particularly in regard to periods where in-country record keeping was disrupted – for example during the successive coup d'etats and changes in government which took place from 1966 to 1981.[3]

By interspersing the institutional chapters with three focused studies of particular disease control programmes, I aim to explore the central questions outlined above (about the interplay between regional peripherality and the provision of health services) at various levels of detail, from state policies to healthcare in specific valleys or villages. I also attempt to chart connections between public health interventions in distinct periods, and to assess the role of individuals and their medical beliefs in shaping the outcome of particular disease control initiatives. In Chapter 2, I discuss the evolution of control programmes against human and animal sleeping sickness, observing the particular ways in which medical work in the north was responsive to, and constrained by, the economic preferences of the central Gold Coast administration. In Chapter 4, I give an account of how colonial-era tsetse control programmes unwittingly contributed to the serious prevalence of onchocerciasis in northern communities – a problem which was first acknowledged shortly before the transition to independence rule, when northern Ghana was found to have the worst onchocerciasis-related blindness of any region in Africa. In Chapter 6, I discuss attempts to control guinea worm across the century: a disease which was brought under control in many southern settlements by 1920, but which only received concerted attention in the north from the late 1980s.

3 See, for example, Dr J. Koku Awoonor-Williams, Interview, Navrongo, 2 July 2015; Professor Frances Nkrumah, Interview, Accra, 15 July 2015; Dr Sam Adjei, Interview, Accra, 26 June 2015; Dr Moses Adibo, Interview, Accra, 17 June 2015; Professor Fred Binka, Interview, Ho, 21 July 2015

The north as place and periphery

Modern-day northern Ghana covers an area of approximately 98,000 square kilometres, or 41 percent of the Republic of Ghana's total land area, and is presently divided into three administrative divisions: the Northern, Upper East and Upper West regions.[4] Geographically and climatically the north is a savanna, with low hills and grassland plains punctuated by many trees, occasional rock outcroppings, and the tributaries of the Red, White and Black Volta rivers. Made up of dry tropic shrubland and dry tropic forest ecological zones, it lies between the West African forest belt to the south and the arid Sahel to the north.[5] The peak of the rainy season runs from July to October, when temperatures remain moderate (daytime temperatures average around 30°C in Tamale, the administrative capital of the Northern Region), followed by a period of relatively cool dry weather and dusty *harmattan* winds that reach peak strength in December. From January to April the weather remains dry, but daytime temperatures increase sharply (averaging 37°C in Tamale), until the first rains begin in April.[6]

With approximately 20 percent of Ghana's total population in 2010 (4.2 million people), the north is home to a large number of ethnic communities, with most people speaking languages of the Niger-Congo *Gur* family.[7] Yakubu Saaka identifies more than thirty different ethnic groups in the north, noting that 'unlike most areas in Africa, linguistic boundaries are not necessarily coterminous with ethnic zones. There is a great deal of ethnic and linguistic fluidity in the area, and most of the larger ethnic

4 Government of Ghana, 'Regional Information', accessed 22 May 2017, http://www.ghana.gov.gh/index.php/about-ghana/regions/.

5 United Nations Food & Agriculture Organisation, 'Global Ecological Zones for Forest Reporting: 2010 Update' (Rome: FAO, 2012), ch.12.

6 Climate-data.org, 'Climate Data: Tamale', accessed 24 July 2017, https://en.climate-data.org/location/667/.

7 Jean Allman and John Parker, *Tongnaab: The History of a West African God* (Bloomington, Ind.: Indiana University Press, 2005), 27; Government of Ghana, '2010 Population & Housing Census Of Ghana' (Ghana Statistical Service, 2012), 40.

groups consist of more than one linguistic group'.[8] Large ethnic groups include the Dagomba, Mamprusi, Konkomba and Gonja peoples of the Northern Region; the Frafra, Nabdam, Kusasi, Kassena, Builsa, and Bimoba peoples of the Upper East; and the Dagaaba, Lobi, Sisaala and Wala peoples of the Upper West.[9] The fluidity of ethnicity and the use of variable nomenclature across the century mean that some of these terms remain the subject of debate.[10] The main religions are Islam (Sunni and Ahmadiyyah) and Christianity (principally Catholic), although a large number of people follow traditional religions, and there is significant variation in religious adherence between regions. The Northern Region has the highest proportion of Muslims of any administrative division in Ghana, at 59 percent of the population in 2010, while Christians are more slightly more numerous than Muslims in the Upper East and Upper West regions, at 41 percent and 44 percent of the population respectively. Adherents of traditional religions make up an average 18 percent of the population across the three regions, reaching 28 percent in the Upper East.[11]

Given the size of the region and the diversity of its peoples, is it possible to treat the north as a discrete unit between 1900 and 2000? Although I discuss intra-regional differences where appropriate, this thesis generally approaches the north as a conceptual whole, and this evidently requires some justification. By 'the north', I mean the lands and communities which were (often violently) incorporated by Britain into the Gold Coast in 1902, as the Northern Territories Protectorate. This area remained part of the same administrative division across the transition to independent rule, and persisted in broadly the same geographical boundaries at the end of the twentieth

8 Yakubu Saaka, ed., *Regionalism and Public Policy in Northern Ghana* (New York: Peter Lang, 2001), 6.
9 Ibid., 6–7; Government of Ghana, 'Regional Information'.
10 See, for example, Carola Lentz, *Ethnicity and the Making of History in Northern Ghana* (Edinburgh: Edinburgh University Press, 2007), Introduction and ch.1.
11 Calculated from Government of Ghana, '2010 Population & Housing Census Of Ghana', p.40 Table 16.

century, as the region commonly called northern Ghana or simply ‘the north’ by people across the country (See Maps 1 and 2). In this study I use ‘the north’ both as a useful shorthand metonym for the whole region and its inhabitants (whom I sometimes refer to as ‘northerners’), and as a marker of comparison with ‘the south’, which is also discussed as a discrete unit, as explained below. By ‘the south’, I mean all of Ghana (or the Gold Coast) south of the current-day Northern Region. Under British rule, the Gold Coast comprised three administrative divisions: the Northern Territories, Ashanti, and what was then often simply called ‘the Colony’, made up of coastal settlements and inland districts that had first been declared a crown colony in 1874.[12] Modern-day Ghana comprises ten administrative regions – seven in the south, and the three regions of the north.

In addition to its large geographical area and wide range of ethnicities, the idea of a northern whole is complicated by several redrawings of the region’s internal boundaries after 1902. Districts were rearranged in 1921, when the Territories' three provinces were reduced to a large Southern Province and a smaller but more populous Northern Province, and in the 1950s when the Northern Territories was divided into the Upper and Northern Regions. At the end of the twentieth century the major administrative divisions of northern Ghana were again more spatially aligned to those at the beginning of colonial rule, with Northern, Upper West and Upper East regions, and of course the north was no longer administered as a separate protectorate within a larger colonial possession. The total area of the north fluctuated slightly during the colonial period, falling when some frontier districts were moved from the Northern Territories to Ashanti, and rising quite substantially after the First World War, when part

12 To avoid confusion, I use ‘the Colony’ with a capital C when referring to this area; all other uses of colony refer to the Gold Coast as a whole.

of German Togoland became a British mandate and was subsequently merged into the Gold Coast.

Despite its internal variations, there is a strong case to be made for treating the north as a discrete whole over the twentieth century, in relation to the south. Some arguments stem from natural factors related to geography and climate. Separated from the coast by the West African forest belt, the region's weather patterns, terrain, ecological systems and agricultural potentials were (and are) substantially different to the rest of the country. Crucially, unlike the south, the north was not a zone of cocoa production, the single crop most valued and consistently supported by different colonial and postcolonial governments. Nor did it have any significant gold mines, the second most important source of state- and private-sector revenues. Instead, for much of the century the north's principal agricultural exports were various products of the shea-nut tree, a plant which does not grow in bulk further south, and which attracted little interest from southern governments. Partly as a result of its different climate and ecology, the north was host to diseases that had less impact in the forest belt or at the coast: notably epidemic cerebrospinal meningitis, a disease which only reaches epidemic proportions in the dry savanna or Sahelian climates of the 'African meningitis belt', which does not extend into southern Ghana.[13] As I discuss in the following chapters, the relatively high northern prevalence of some diseases was sometimes a result of the same ecological and climatic differences, but was often also a product of the region's subordinate status within the overall political economy of the Gold Coast.

13 Despite its significant impacts in the north, meningitis is not the focus of an individual chapter in this thesis, in part because I had examined the disease in previous research. See David Bannister, *Epidemic cerebrospinal meningitis and its treatment in colonial northern Ghana, 1900-1957*, Masters dissertation, (University of Cambridge, 2013); and see Anna Molesworth et al., 'Where Is the Meningitis Belt? Defining an Area at Risk of Epidemic Meningitis in Africa', *Transactions of the Royal Society of Tropical Medicine and Hygiene* 96, no. 3 (2002): 242–49;

Ethnic, linguistic and cultural differences further sustain the idea of a discrete north and south. At the time of the north's incorporation into the colonial Gold Coast in 1902, some northern communities were centralised under a hierarchy of leaders, but many others were arranged in decentralised or 'acephalous' political formations – perhaps a result of the years of the Atlantic slave trade, which promoted and profited from decentralisation.[14] The north saw intense slaving activity during the years of the Atlantic trade, when slaving raids were conducted by the southern Asante Confederacy, and after abolition, when the region became a focus of raids by Samori Toure and the Zabarima fighters of Babatu Zatu.[15] The intensity of slaving in the north may to some extent be responsible for the relatively low penetration of Islam at the advent of colonial rule, relative to other parts of the West African interior. Natalie Swanepoel has argued that prohibitions on enslaving Muslims meant that the north's communities became broadly designated as 'pagan' and therefore suitable for enslavement by surrounding Muslim communities. Jean Allman and John Parker similarly note that the blanket terms *Gurunsi* and *nnonkofoo* (suggesting 'an identity outside of jural corporateness and indeed on the fringe of perceptions of humanity') were applied by the southern Akan states of the nineteenth century to many decentralised societies in the Northern Territories, and that these states also saw the region as a slaving reserve.[16] Over the course of the twentieth century, Islam spread more extensively across the north than in any other region of Ghana, and became the predominant religion across the north as a whole (at 42 percent of the region's total population in 2010).[17] The south

14 Martin Klein, 'The Slave Trade and Decentralized Societies.', *Journal of African History* 42 (2001): 49–65.

15 Natalie Swanepoel, 'Every Periphery Is Its Own Center: Sociopolitical and Economic Interactions in Nineteenth-Century Northwestern Ghana', *International Journal Of African Historical Studies* 42, no. 3 (2009): 411–32.

16 Allman and Parker, *Tongnaab*, ch.1; Swanepoel, 'Every Periphery Is Its Own Center', 419.

17 Calculated from Government of Ghana, '2010 Population & Housing Census Of Ghana', p.40 Table 16.

became increasingly Christianised over the same period, and in 2010 approximately 90 percent of the southern population were Christian. This evolving twentieth-century religious difference between north and south overlay an older ethnolinguistic division. In the south, most people speak languages of what has been called the *Kwa* family of the Niger-Congo group – Ga, Ewe and the mutually intelligible Akan languages of Fante and Twi – while most northern communities speak languages of the Niger-Congo *Gur* family.[18]

Beyond these differences, which in themselves would arguably justify approaching the north as a distinct region relative to the south, the most important divisions between the two regions lie in the north's peripheral political and economic situation within Ghana (or the Gold Coast) as a whole. In much of the existing scholarship on northern Ghana, the north has been identified as a periphery of both the colonial and postcolonial state: in terms of the relative administrative attention and spending the region received from central governments, in light of relative access to educational or economic opportunities, and regarding its peoples' political influence in the country as a whole.[19] Located far from the coast and its trading centres, and a focus of slave-raiding by surrounding societies before the colonial period, northern communities were to some extent on the margins of West Africa's regional economic systems before the imposition of colonial rule, when the region known to British officials as the 'Ashanti Hinterland' was annexed to the Gold Coast.[20] But

18 Niger-Congo language map, and Classification of the Eastern Kwa Languages, Figure 3 in Roger Blench, 'Do The Ghana-Togo Mountain Languages Constitute A Genetic Group?' (Paper presented at the GTML Workshop, Ho, 25 July 2006), http://www.rogerblench.info/PubOP.htm.

19 See, for example, Rhoda Howard, *Colonialism and Underdevelopment in Ghana.* (London: Croom Helm, 1978); Inez Sutton, 'Colonial Agricultural Policy: The Non-Development of the Northern Territories of the Gold Coast', *International Journal of African Historical Studies* 22, no. 4 (1989): 637–69.

20 Allman and Parker, *Tongnaab*, 28–37; and see Swanepoel, 'Every Periphery Is Its Own Center'.

developments during the colonial period both altered and entrenched this peripherality, which has persisted to the present day.

If the Gold Coast was a model home for British colonialism in Africa, then the north was the skeleton in its closet. The economic relationship between Britain and the Gold Coast's coastal African societies went back further than for almost any other African colony, given the long presence of British forts during and after the Atlantic slave trade. Colonial administrators in the twentieth century sometimes voiced the opinion that the Gold Coast was a less coercive and more 'natural' colony as the result of this long relationship:

> The Gold Coast Colony differs from the majority of British tropical possessions. The authority of the Government of Great Britain has not been established here through conquest or cession, but instead has asserted itself throughout the country, at present included within the boundaries of the Colony proper, by a process of natural and more or less fortuitous growth.[21]

Along with Nigeria, the Gold Coast and Ashanti (incorporated into the colony in 1896) were Britain's most profitable possessions in Africa, and a popular destination for visiting princes, ministers and other metropolitan notables.[22] But distributional gulfs between the 'Colony proper' and Ashanti, on the one hand, and the adjunct regions of the north, on the other, became increasing apparent over the years of colonial administration.

When early attempts to promote cotton and other export crops 'almost to the point of coercion' were unsuccessful, the Accra government elected to develop the north as a labour reserve, supplying low-cost migrant workers for the gold mines and

21 1917 Gold Coast Annual Report [hereafter GCAR], 8.

22 Gareth Austin, 'The "Reversal of Fortune" Thesis and the Compression of History: Perspectives from African and Comparative Economic History', *Journal of International Development* 20, no. 8 (2008): 1011; and for an interesting visual example, see H. Woolfe, *Official Record Of The Tour Of H.R.H. The Prince Of Wales, Part 3* (British Instructional Films, 1925), http://www.colonialfilm.org.uk/node/1705.

cocoa farms of the south.[23] Migrant labour became seen as the 'principal asset of the dependency', and reports from the 1920s onwards observed that the southern economy had become ‘largely dependent’ on Northern Territories labour, as had the Gold Coast Regiment: the region supplied the majority of its troops in both world wars.[24] By the late 1920s, checkpoints on river crossings to Ashanti recorded approximately 60,000 northerners migrating annually for work on the gold mines and cocoa farms. This was almost 10 percent of the region’s total population at the time, and a larger proportion of its work-capable adults.[25] The extraction of migrant labour disrupted local agriculture and social cohesion, and made the welfare of northern peoples sensitive to economic changes in the south and in the broader imperial economy. Shifts in the world gold price which reduced local mining activity, or events like the hold-up of the cocoa crop by southern smallholders in 1937, in resistance to the cartel behaviour of European buyers, could have serious impacts on a region with falling subsistence production and few alternative sources of trade income.[26] As a political officer observed in the 1930s, ‘The protectorate's problems relate not to the development of an export crop, but to the production of sufficient food for the sustenance of the population’.[27]

The colonial-era economic marginalisation of the Northern Territories has been attributed to a number of contributory factors. Inez Sutton proposes that the early failure of commercial agriculture led to the broader neglect of the region, while Roger Thomas argues that the loss of local labour through migrancy – and the persistent use

23 See 1924-1925 Northern Territories Annual Report [hereafter NTAR], 3.

24 1922-1923 NTAR, 3; 1923-1924 NTAR, 3; 1930-1931 NTAR, 1–4; Roger Thomas, ‘Military Recruitment in the Gold Coast during the First World War’, *Cahiers D’études Africaines* 15 (1975): 57–83; Wendell P Holbrook, ‘British Propaganda and the Mobilization of the Gold Coast War Effort, 1939-1945’, *Journal of African History* 26, no. 4 (1985): 347–61.

25 1928-1929 NTAR, 12; See also Roger Thomas, ‘Forced Labour in British West Africa: The Case of the Northern Territories of the Gold Coast 1906–1927’, *Journal of African History* 14, no. 1 (1973): 79; Meyer Fortes, ‘Culture Contact as a Dynamic Process: An Investigation in the Northern Territories of the Gold Coast’, *Africa* 9 (1936), 37.

26 See, for example, 1917 NTAR, 2; 1922-1923 NTAR, 20; 1923-1924 NTAR, 21; 1927-1928 NTAR, 4–6.

27 1937-1938 NTAR, 37–39.

of forced labour for northern infrastructure projects, which continued into the 1930s – contributed to increasingly local poverty during the colonial period.[28] This poverty was also the result of geographical isolation, through the uneven development of transport infrastructure. The region was never linked to the railway line which connected Ashanti to the coast from 1903, and in 1918 it still took 12 days to travel from Accra to the north's administrative headquarters at Tamale.[29] As other more efficient trade routes became available, the north lost its precolonial economic access as a transit zone for salt, kola and cattle caravans from the Sahelian interior. By 1929 it was observed that the region's older desert trade had 'all but succumbed to the competition of the steamship, railway and motor traffic to the south'.[30]

Colonial-era neglect also stemmed from the north's lack of political influence within the Gold Coast's formal and informal systems of governance. With little access to the southern centres of government, which had imposed policies that explicitly limited northern educational provision and restricted the presence of missionary groups, the region was kept at a political arm's length for most of the colonial period.[31] British officials in the Northern Territories only received a seat on the Gold Coast's legislative council in 1948, while the north's African representatives were excluded from the colony's African Assembly when it was created in 1946, as a first step towards self-rule.[32] For most of the colonial period, therefore, there was little opportunity for African advocates or northern officials to counter critical views of the region among officials and traders at Accra. These groups sometimes argued that the north and its peoples

28 Sutton, 'Colonial Agricultural Policy'; Thomas, 'Forced Labour'.
29 1920 GCAR, 95; For an early recognition of the health implications of the railway extension, see 1903-1904 Medical Department Annual Report [hereafter MDAR], 2.
30 1929-1930 NTAR, 29.
31 For a discussion of educational policy and missions, see Roger Thomas, 'Education in Northern Ghana, 1906-1940: A Study in Colonial Paradox', *International Journal of African Historical Studies* 7, no. 3 (1974): 427–67.
32 Yakubu Saaka, 'North-South Relations and the Colonial Enterprise in Ghana', in Saaka, *Regionalism and Public* Policy, ch.7; Howard, *Colonialism and Underdevelopment*, 40–42.

were of 'negligible' importance, or that the region 'imposes a burden upon the Gold Coast for which it makes no adequate return'.[33] Among the African people of the Gold Coast, wealth and political strength were also concentrated in the south, where there was an established popular press, and a network of coastal elites who had forged trading relationships with Europe over the preceding century.

Over the first decades of the north's incorporation into the Gold Coast, poverty, disease and poor living conditions begin to appear more regularly in descriptions of the region's inhabitants – contributing to an enduring discourse that represented northerners as unhealthy, second-class citizens. By the mid-1920s, the 'wild tribes' who 'leapt out with twanging bows and bloodcurdling yells, in apparent ecstasies of joy' had been replaced in colonial reports by 'the immigrant labourer from the North, who generally reaches the cocoa areas in poor physical condition and is often diseased'.[34] The above details give an idea of how northern peripherality was entrenched over the colonial period, setting a pattern which persisted across the transition to independence and intro the present. As Alexander Moradi has noted in a study of colonial-era nutrition in Ghana, childhood malnutrition rates across the country, recorded from 1980-2000 and showing that the three northern regions have the most serious prevalence, 'essentially follow the spatial pattern that evolved 1920-1950'.[35]

In 1999, it was estimated that 26 percent of people were living in extreme poverty across Ghana as a whole, defined as the inability of a family group or individual to meet their minimum subsistence needs. This national average was substantially shaped by the far greater extent of extreme poverty in the three northern

33 1918 NTAR, 2–3.
34 1910 NTAR, 12; 1923-1924 NTAR, 21.
35 Alexander Moradi, 'Confronting Colonial Legacies-Lessons from Human Development in Ghana and Kenya, 1880-2000', *Journal of International Development* 20, no. 8 (2008): 1115.

regions, where 68 percent of all people were considered unable to meet these needs.[36] These figures were recorded after two decades of an IMF-World Bank structural adjustment programme in Ghana. Ostensibly intended to reduce urban-rural inequalities, and praised internationally for raising Ghana's headline GDP growth, the negative effects of structural adjustment were consistently passed northwards. Extreme poverty increased sharply during the structural adjustment era, as it decreased in most other regions of the country, forcing an accelerated migration of northerners to informal satellite settlements on the fringes of coastal towns.[37] Economic migrancy remains central to the north-south relationship in the present, and is one of several key thematic currents in the chapters which follow – the attention given to a particular northern health problem or disease was often related to its impact on the southwards supply of labour.[38]

By the year 2000, the north's peripheral status had become a commonplace among development planners and bilateral donor agencies, although it was less often discussed in state documents. But widespread recognition of northern peripherality has not necessarily entailed any historicisation of the problem, or a recognition of southern neglect in determining local privation. As Karl Botchway argues in his critical reading of a development report on the north, 'the region's poverty is perceived primarily as a function of inadequate bio-physical characteristics and a poor application of economic principles ... this mystifies the causes of poverty and, in the process, depoliticizes contentious issues about the sociopolitical and structural causes of poverty within the

36 DFID, 'Economic Growth in Northern Ghana, Report for United Kingdom Department for International Development' (London: The Overseas Development Institute, October 2005), 13; Ghana Institute of Statistical, Economic & Social Research, 'Ghana Human Development Report 2007' (Accra: Government of Ghana and UNDP, 2007), 100–102.

37 See Samuel Agyei-Mensah and Ama de-Graft Aikins, 'Epidemiological Transition and the Double Burden of Disease in Accra, Ghana', *Journal of Urban Health* 87, no. 5 (2010): 887; Sara Krüger Rasmussen, 'Pro-Poor Health Care in Northern Ghana' (Thesis, Roskilde University, 2009), 15.

38 For a discussion of contemporary labour migration and its social impacts in the north, see Lentz, *Ethnicity*, 14.

region'.[39] For example, a relatively recent report from the United Kingdom's Department for International Development (DFID) argued that because of an unspecified 'failure' to achieve economic growth in the past, the three northern regions now 'need to find ways of moving from being the periphery to being centres of economic activity'. Having 'scoured the literature', the report's optimistic recommendations included some of the same policies that contributed to northern impoverishment during the colonial period, including the promotion of cotton as an export crop and 'better' labour migration to the south.[40]

The paragraphs above give some overview of the north and its peoples, and offer a justification for treating the region as an analytical whole – because of its distinct geography, climate and cultural/linguistic differences with the south, but more centrally in light of the north's enduring relative peripherality. It is not necessary to embrace the prescriptions of any particular 'core and periphery' theory to find the idea of a core and a periphery analytically useful, or to observe that political and economic power have consistently been concentrated in some places and not others, even if this is not the product of inexorable economic or spatial laws. There were certainly districts and communities in the rural south that experienced comparable levels of privation to the north over the period under study, and a similar lack of influence on colonial and postcolonial health policy. These included some northern areas of the rural Volta Region on Ghana's eastern border, and parts of the Brong-Ahafo Region to the north-west of Ashanti.[41] But in aggregate, and from an early point in the history of the Northern Territories Protectorate of the Gold Coast, the north diverged from the

39 Karl Botchway, 'Are Development Planners Afraid of History and Contextualization? Notes on Reading a Development Report on Northern Ghana', *Canadian Journal of African Studies.* 35 (2001): 34.
40 DFID, 'Economic Growth', 5–10.
41 See Map 2

southern regions in terms of governance, political access and economic opportunities, and in the resultant provision of health services.

Literature, sources and historiographical context

In a survey of the historical literature on disease, medicine, health and healing in Africa, published in 2000, Maureen Malowany argued that from the 1970s there were two broad divides in the historiography on African health. She proposed that much previous scholarship fell within the 'political economy of health paradigm', including 'country-specific histories of medical services, and socio-cultural and economic explorations of medical or disease crises … as windows through which broader social, cultural, political and economic relations may be reassessed'.[42] The second subset of historical studies were informed by the work of medical anthropologists, and focused on indigenous systems of health and healing 'in an attempt to balance a corpus seen to be dominated by western biomedical frameworks'.[43] These proposed historiographical divisions were perhaps overly broad, and unable to account for work which approached biomedical practices or state health services in Africa from other critical perspectives – for example Megan Vaughan's *Curing Their Ills*, published in 1991, which sought to 'provide for biomedicine the kind of account that is normally reserved for "indigenous" healing systems'.[44] Malowany's article was itself written as a call to arms for further research in another area: 'history which recognizes that the role and nature of science and research are significant in meeting the challenges imposed by the burden of disease in Africa'.[45]

42 Maureen Malowany, 'Unfinished Agendas: Writing the History of Medicine of Sub-Saharan Africa', *African Affairs* 99, no. 395 (2000): 328.
43 Ibid., 329.
44 Megan Vaughan, *Curing Their Ills: Colonial Power and African Illness* (Oxford: Polity Press, 1991), ix.
45 Malowany, 'Unfinished Agendas', 349.

Influenced by the emergent field of Science and Technology Studies, this branch of African health history has grown rapidly. In a more recent survey of the literature, published in 2013, Nancy Rose Hunt identifies four contemporary divisions in the historiography. These are the 'political economy of health' approach, focused on what the particular distributions and interactions of a healthcare system reveal about broader social, political and economic relationships; the 'health and healing approach', concerned with indigenous medicine, vernacular systems of health, and the local integration of 'traditional' and biomedical approaches; the critical theory or discourse analysis approach, which interrogates the ways that health systems and medical science represent both themselves and their subjects, and the resulting distribution of power within these systems; and finally the 'Science and Technology Studies approach: concerned with flows of knowledge, experimental practice, and the relationship between technology and society, and with global networks that have shaped the history of health in Africa.[46]

To these, a fifth emergent subsection of the historiography might be added: histories concerned with the ideas and practices of 'public' and/or 'global' health. A number of recent edited volumes take public or global health, defined broadly, as their starting point for an examination of the relationship between African governments, African publics and transnational health institutions. In *Making and Unmaking Public Health in Africa*, Ruth Prince and Rebecca Marsland collect studies that aim 'to take the histories and legacies of biomedical modernization and associated public health initiatives seriously, in attention to how African publics – including medical professionals, scientists, government officials, staff of non-governmental organisations, community health workers, "volunteers", patients and their families – seek to provide

46 Nancy Rose Hunt, 'Health and Healing', in *The Oxford Handbook of Modern African History*, ed. John Parker and Richard J. Reid (Oxford: Oxford University Press, 2013), 378–87.

or receive medical care'.[47] In another collection, *Para-States and Medical Science: Making African Global Health*, Paul Wenzel Geissler and contributors explore the role of the 'para-state' in African medical science and the provision of healthcare: 'the ways in which the state, albeit changed or in unexpected ways, continues to work as structure, people, imaginary, laws and standards'.[48] The collected studies in these volumes represent the full range of historiographical approaches outlined above, and are concerned with many of the same themes and subjects as earlier scholarship. What unites this recent work, however, is a relative foregrounding of government and the state, and its notional responsibilities either as the direct provider of 'public health', or as mediator between African publics and transnational health organisations, donors and NGOs.[49] As Geissler argues:

> While nation-building processes in African and Europe were obviously different, historical relativisation of the African state should not distract one from its promissory character. For generations of Africans the state has shaped what the world looks like, where one places oneself within it, and where one wants it to move. Its institutions and processes have proven surprisingly durable… in particular state medicine and medical science continue to emanate not simply power and sometimes fear, but civic purpose and hope for (better) life.[50]

Conversely, Prince and Marsland observe that the gap between the state's 'promissory character' and its intervention into the health of African people has been uneven, contingent, and dependent on political factors:

> Despite the hopes placed in the developmentalist state, a national context in which public health is promoted by the government and extended to citizens on an equal basis has never really existed in Africa, either in the past or in the

47 Ruth Prince and Rebecca Marsland, eds., *Making and Unmaking Public Health in Africa: Ethnographic and Historical Perspectives* (Athens: Ohio University Press, 2014), 4.
48 Paul Wenzel Geissler, ed., *Para-States and Medical Science: Making African Global Health* (Durham: Duke University Press, 2015), 2.
49 For further collected studies representing this trend in the historiography, see Tamara Giles-Vernick and James L. Webb, eds., *Global Health in Africa: Historical Perspectives on Disease Control* (Athens, Ohio: Ohio Univ., 2013).
50 Geissler, *Para-States*, 4

> present. Moreover, conceptions of the public sphere, the public good, and the public itself have been plural, and cannot be taken for granted.[51]

Through an assessment of the long-term evolution of public health institutions in northern Ghana, and with case studies that examine the links between state-supported disease control interventions in different periods, this thesis aims to make a contribution to this area of African health history. As far as possible, as with many of these recent studies on public health in Africa, I have employed a hybrid historiographical approach throughout the thesis, as the best means of imperfectly accommodating a range of relevant sources at different levels of detail over a long period of time. In some chapters I address the discursive aspects of public health, including the discourse of northern contagion that emerged during the early colonial period, the new rhetorical strategies that the Colonial Welfare and Development Acts offered to local officials advocating for improved northern healthcare in the year immediately before independence, and the idioms of disease-focused international fundraising developed by the British Empire Society for the Blind following the 'discovery' of widespread onchocerciasis in northern Ghana. At other points I discuss the social history of medical work, the networks which linked local practitioners to global health organisations, and the dissemination of new medical technologies in the context of northern peripherality. Throughout the thesis I return to the political economy of public health, while attempting to situate local developments in their national and global context. However, given the available sources, and a principal focus on the state as a fulcrum for public health, some important aspects of the history of health and healing are not addressed in detail. In particular, the study does not engage closely with vernacular systems of medicine and healing, although these were an

51 Prince and Marsland, *Making and Unmaking Public Health*, 6.

important element of the overall healthcare system in the colonial and postcolonial north. Nor does it consistently use ethnicity, gender or intra-regional social class as an analytical lens. As discussed previously, the thesis instead approaches the north as a regional whole, asking how the aggregate public health experience of northern people was shaped by the relationship of their home region to Ghana's economic and political centres.

Beyond this broader historiographical context for the study, the thesis engages as far as possible with the relatively substantial corpus of existing literature on health in Ghana as a whole, and with the smaller number of studies that focus on the north. For the colonial period there is K. David Patterson's meticulous *Health in Colonial Ghana: Disease, Medicine, and Socio-Economic Change, 1900-1955.* Patterson makes occasional reference to the Northern Territories in his detailed, 'essentially epidemiological' survey of disease in the Gold Coast, and his examination of colony-wide change provides useful context for this thesis – for example, he discusses the political strength of coastal African elites when advocating for improvements to local provision of health services.[52] As with much other research on health in Ghana, Patterson does not attempt systematically to disaggregate the north, or to account for healthcare developments in light of the region's particular political and economic situation. His study is nevertheless a foundational text in the historiography of health in the colonial Gold Coast, as is an earlier monograph by the retired Gold Coast Medical Officer David Scott. Scott's *Epidemic Disease in Colonial Ghana, 1901-1960* also took an 'essentially epidemiological' viewpoint, by attempting to account for the transmission and prevalence of different diseases over the colonial period. Scott remained working as a medical officer in Ghana after independence, and

52 K. David Patterson, *Health in Colonial Ghana: Disease, Medicine, and Socio-Economic Change : 1900-1955* (Waltham, Mass.: Crossroads Press, 1981), 15–20.

his book (published in 1965) functions as both primary and secondary source for this longer-term study of public health.[53]

Drawing on these two monographs, Jeff Grischow has more recently sketched out details of a similar history for the colonial north. In a working paper released in 2009, Grischow sets out to respond to Maureen Malowany's 'call to arms' published in 2000, calling for histories which locate African medical work in the context of global scientific exchange.[54] Grischow touches on some themes found in this thesis, including the development of international linkages and the epidemiology of particular diseases in relation to the economics of the north.. However, his working paper is largely a descriptive periodisation of colonial-era disease outbreaks in the north, based upon Patterson and Scott or drawn from the same sources. This is also an epidemiological history: one in which the seductive idiom of the biosciences is sometimes deployed at the expense of a more nuanced analysis of medical activity in the north. With a reliance on a relatively narrow range of sources, there are also some errors. For example, in regard to smallpox in the colonial Northern Territories, it is incorrect to say that little attention was paid to the disease by local officials, or that vaccination campaigns in the Gold Coast only commenced in 1905.[55] In comparison with other infectious diseases in the region, smallpox was a relatively consistent focus of preventative work in the north – and in the southern Gold Coast, vaccination efforts against smallpox began in the early nineteenth century. The virulence of smallpox, posing a threat to cross-border trade and military recruitment, and the relatively low costs of vaccination in comparison with other diseases, meant that it formed a central

53 David Scott, *Epidemic Disease in Ghana 1901-1960* (London: Oxford University Press, 1965).
54 Jeff Grischow, 'Globalisation, Development And Disease In Colonial Northern Ghana, 1906-1960', *WOPAG, Working Papers on Ghana : Historical and Contemporary Studies* No. 9 (January 2006); and see Malowany, 'Unfinished Agendas'.
55 Grischow, 'Globalisation, Development And Disease', 23.

focus of Northern Territories medical activity in the early colonial period, and during the two world wars.[56]

Although there are problems with this unpublished paper, this thesis is indebted to several of Grischow's other published works on the region – on tsetse-fly eradication in the 1930s-1940s, and his research on agricultural development projects in the colonial north.[57] His study of the tsetse eradication programme led by entomologist K. R. S. Morris reveals the way that individual theories regarding disease transmission shaped a far-reaching prevention campaign, involving the clearing of riverine forest from large areas of the north. Grischow concludes that the campaign was a developmental success. In Chapter 2, I approach the anti-tsetse campaign from a different perspective: as a vector for the economic preferences of the southern government, unrelated to disease control, and as an important contributory factor in the prevalence of onchocerciasis-related blindness.

These studies cast light on aspects of Gold Coast disease and health provision during the colonial period, and to a lesser extent on the north. However, the analysis in each case ends at the transition to independent rule, a critical moment for northern healthcare. In the rapid changes which accompanied to the shift towards independence in the north, many existing policies and projects were shelved, previously-ignored diseases were given renewed attention, and public health acquired a new political salience. These developments had implications which can only be understood by extending the examination beyond 1957, when the relatively accessible colonial archive

56 See, for example, PP 1825 XV [39], 'Vaccine Establishment': Copy of report received by the Secretary of State for the Home Department; PP 1889 LXXVI [C.5897] Gold Coast Sanitary and Medical Reports for 1887 and 1888; 1900 MDAR, 7; 1918 MDAR, 1–10; 1925-1926 MDAR, 14; 1941 MDAR, 1,5; 1909 NTAR, Chicago CRL, 13.

57 Jeff Grischow, ‘K. R. S. Morris and Tsetse Eradication in the Gold Coast, 1928–51’, *Africa* 76, no. 03 (2006): 381–401; Jeff Grischow, ‘Late Colonial Development in British West Africa: The Gonja Development Project in the Northern Territories of the Gold Coast, 1948-57’, *Canadian Journal of African Studies* 35, no. 2 (2001): 282–312.

ceases to be of use. Some studies have bridged this gap with a focus on particular aspects of health or disease. Jérôme Destombes' work in biostatistical history deals with nutrition in the north-east of Ghana, using colonial and post-independence data on heights and weights to draw conclusions about food security and nutritional health from 1930-2000.[58] His study includes a close examination of the colonial-era scandal around the suppressed 1941 Purcell Report, which revealed widespread famine in the north.

The thesis also draws on PhD research by Daniel Kojo Arhinful, which includes a chapter that examines government approaches to funding health services in Ghana over the long term, from 1850 to 2000.[59] Arhinful's central focus is the contemporary provision of rural health insurance, and his thesis does not aim to disaggregate the north in its assessment of previous national policies. The region consistently experienced shortfalls in healthcare funding as a result of its situation on the margins of Ghana's economy and politics. The north's budgetary allocations were paradoxically the most exposed to shifts in the global economy, and northern communities were most seriously affected by the various medical cost-recovery initiatives that Accra trialled from 1966 to 2000. Arhinful's research gives a valuable account of policy shifts in healthcare funding over the last century, and is one of few works to cover this whole period (with discussion of the independence transition) for a particular aspect of health in Ghana. Giovanni Carbone has recently completed a study of health policy reforms, with a similar Ghana-wide focus, for the period after independence, and particularly for the years that followed the turn to Structural Adjustment after 1983. His analysis extends beyond the implementation of the

58 Jérôme Destombes, 'From Long-Term Patterns of Seasonal Hunger to Changing Experiences of Everyday Poverty: Northeastern Ghana C. 1930–2000', *Journal of African History* 47, no. 02 (2006): 181.

59 Daniel Kojo Arhinful, 'Health Care in Ghana and How It Was Paid for: An Historical Perspective (1850-2001)', in *The Solidarity of Self-Interest: Social and Cultural Feasibility of Rural Health Insurance in Ghana*, Thesis (Leiden: African Studies Centre, 2003), ch.2.

country's first National Health Insurance Scheme in 2003, and notes the process of healthcare policy diffusion from 'core' global economic regions towards the periphery, facilitated by organisations like the WHO.[60]

Another relatively recent study, by Bernhard Bierlich, discusses ethnicity and northern society in light of state healthcare, focusing on the commodification of healing, gender identities and changing conceptions of disease among the Dagomba people of the Northern Region. Bierlich's research offers a focused assessment of the way that private-sector pharmaceuticals, sold for profit, are integrated into Dagomba healing systems, and includes useful discussion of the way that a perceived local disease burden affects the uptake of state-sponsored medicine. However, Bierlich's insistence on the specificity and difference of African conceptions of healing and medicine is somewhat problematic. By arguing that Dagomba people of the 1990s necessarily experience 'Western' medicine as part of a 'magical' modernity, which 'charms' them, his observations at times recall ethnographic modes employed for the north in the colonial era.[61] This contrasts with observations from an anthropologist of the colonial period itself, Meyer Fortes, who proposed in the 1930s that biomedicine had been pragmatically integrated into local systems of healing in the north: 'Nothing in the native system of medical beliefs and practices conflicts with the type of treatment given at the dispensary. Nobody has to renounce his ideas and habits in order to qualify for treatment.'[62]

In addition to the historical or anthropological studies mentioned in these previous paragraphs, for the last decades of the period covered by this thesis (1980 to 2000) there are many health-related studies on the north in other fields: from

60 Giovanni Carbone, 'Democratic Demands and Social Policies: The Politics of Health Reform in Ghana', *Journal of Modern African Studies* 49, no. 03 (2011): 381–408.

61 Bernhard Bierlich, *The Problem of Money: African Agency and Western Medicine in Northern Ghana* (Oxford: Berghahn, 2007), 101.

62 Fortes, 'Culture Contact', 29.

development studies, sociology, and healthcare economics. As I discuss in Chapter 6, the proliferation of research in these fields is to some extent a marker of the shift in Ghana's healthcare system which took place after the turn to structural adjustment – a shift which particularly affected the north – as various donors and development organisations entered the region and assumed authority for some aspects of healthcare. A study on 'Pro-Poor Healthcare in Northern Ghana', by Sara Krüger Rasmussen, gives an example of this kind of research: characterised by interviews or participant observation, with a focus on the present.[63] Using an ethnographic method known as 'Rapid Rural Appraisal', Rasmussen aims to determine the contemporary causes of poor healthcare in the north. Her work, and other similar studies, are potentially useful both as primary sources, to the extent that they include oral interview reflections on healthcare in the past, and for their observations about the state of northern healthcare at the end of the twentieth century. However, a focus on proximate causes means that studies of this kind may be blinded to longer-term processes that have more fundamentally determined the nature of public health services in the north.[64]

Sources

The long period of this study means that there are many potentially relevant primary sources. Throughout the thesis I draw on material from national and regional archives in Ghana. The main collections of the Public Records and Archives Administration Department (PRAAD) in Accra include various Gold Coast annual reports, the CSO series of files on colonial-era health services, and the ADM series on the political and economic administration of the Northern Territories. PRAAD Accra also hosts the PD series of files, generated by the Pharmaceutical Services Division of

63 Krüger Rasmussen, 'Pro-Poor Health Care'.
64 See Botchway, 'Are Development Planners Afraid'.

the Ministry of Health, which include reports and memoranda that help to illuminate northern public health work in the period from 1957-1995. At PRAAD's northern regional archive in Tamale, the NRG series contains numerous health-related files for the colonial period, and for the years from 1957 to 1980.

The Gold Coast Annual Medical Reports were replaced by reports from the Ghana Ministry of Health from 1953 onwards.[65] But although the Ministry of Health published intermittent national updates on disease and health after 1957, there are gaps of many years when recession or political turbulence affected the capacity of the state to maintain adequate records. There are relatively fewer sources available in Ghana for the years after independence, and particularly in the decades which followed the overthrow of Kwame Nkrumah in 1966, when rapid changes in government meant that record-keeping was disrupted for almost two decades. Bruce Fetter has argued that the 1970s saw a broad improvement in the source base for historians of African health, particularly for the availability of accurate health statistics.[66] This was not the case for Ghana – in comparison with the colonial period, the source base from 1966-1981 appears relatively thin, although current efforts to reorganise the archives of the Ghana Health Service may bring new documents to light.

An adequate picture of northern healthcare can arguably only be gained by reading documents generated by the central administration in Accra in tandem with files and correspondence in the northern national archive at Tamale, generated by officials who were often acting independently or in tension with the Accra government. I also make use of files from the archives of the World Health Organisation in Geneva. These include documents generated by Ghanaian or international consultants of the

65 1953 MDAR, 9.
66 B. Fetter, 'Health Care in Twentieth Century Africa: Statistics, Theories, and Policies', *Africa Today* 40, no. 3 (1993): 9.

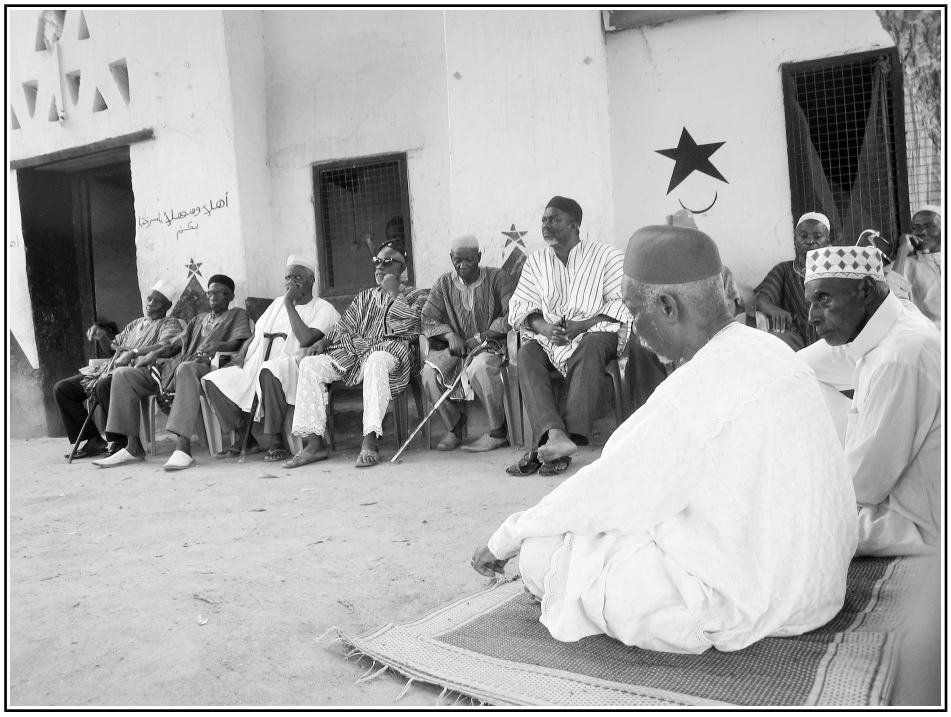
organisation, who observed and reported on public health activities in the north, and on the negotiation of state health policy. They contain correspondence from the Ghanaian state and its health personnel, and internal reports on public health and disease control initiatives overseen by the WHO in northern Ghana.

A further set of sources (in addition to those collected by state archives and the WHO) were produced by health practitioners in research publications, letters and memoirs. In some cases these were overtly technical academic articles, relating to the biochemistry or pathology of certain northern diseases, while others take the form of commentary on disease prevalence, healthcare policy and general socio-economic conditions in the region. Even in technical articles, researchers based in the north often made general observations relating to broader public health work and its changing contexts. Articles from these journals throw light on state-sponsored healthcare and the relationship between north and south, from the perspective of individuals who were not necessarily aligned with either the government or international health organisations. They reveal the evolving discourses of medical research and public health work in Africa, adjusting to a postcolonial world where the benevolence of European-led medical activity on the continent was no longer taken for granted. These research articles are complemented by a set of less formal sources: the collected notes, diaries and unpublished monographs of medical personnel stationed in the region. The archives of the London School of Hygiene and Tropical Medicine contain the collected papers of B.B. Waddy, for example, a British medical officer who became an advocate for improved northern healthcare, and who led an early investigation into onchocerciasis in 1949.

In addition to these documentary sources, the thesis makes use of a number of interviews with retired or active public health officials in Ghana, and with northern

communities who were on the receiving end of health work from the late colonial period to the present. These include interviews with 15 health officials, including former directors-general of the Ghana Health Service, regional directors of healthcare, medical researchers, and individuals who worked on the onchocerciasis and guinea worm control programmes. I also met and interviewed small village groups in the three regions of the north – eight groups in the Upper East, six in the Upper West, and six groups in the Northern Region – to gather recollections about the provision of health services in different periods, the local impacts of disease control work, and about perceptions of northern healthcare relative to the south. These groups ranged in size from six to almost eighty participants in one particularly unwieldy session, arranged by a local political figure, for a total of approximately 450 participants. The interviews generally took the shape of a relatively informal gathering seated outside or in community meeting places, with semi-structured questions put forward through research assistants in local languages. The groups were mixed, with men and women aged from thirty to more than eighty years in age. Many of these interviews provided a fine-grained level of detail and texture regarding the perception of government health services over time, local conceptions of particular diseases, and the relative use of traditional and biomedical treatments. However, in a study which principally examines the relative development of regional public health in its national context, there were difficulties in integrating oral testimony of this kind. Not because these oral histories are necessarily less reliable or commensurable with other kinds of source material, but because my evolving research eventually led me to write a history more closely focused on change within public health institutions, and on the relationship between local health practitioners and central government, and on these subjects the interviews were

relatively silent. For this reason I have generally used the insights obtained through these interviews illustratively, and not as the foundation of my arguments.



Here and overleaf, Figs. 3-7. Group Interviews, northern Ghana, July and August 2015
Source: author

CHAPTER 1

Making the north: northern healthcare and colonial rule

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Three chapters of this thesis develop a discursive narrative of public health work in northern Ghana over the twentieth century, identifying principal themes and key developments across roughly a hundred years of state-sponsored healthcare in the region. They discuss change in the contexts for state provision of public health and medical care in the north, and how these changes shaped policy and action, in a region where poor health and economic or political marginality have been mutually-constitutive constants across the last century. Decisions taken in earlier years created path dependencies which, in combination with the fall-out from global or national events – including wars, coups, depressions and externally-imposed economic reforms – meant that the north diverged from the south in terms of the health and healthcare of its people.

Beyond this divergence, the north's peripheral situation shaped healthcare in less-expected ways. Necessity was often the mother of invention: low funding and a lack of political leverage consistently forced local officials to find novel answers to problems of health provision. These innovations included the rapid growth of Native Authority healthcare in the colonial era, the creation of the Medical Field Units, which operated for decades before and after independence, and the co-opting of vertical donor-funded campaigns (notably the Carter Centre's guinea worm eradication programme in the 1980s-1990s) to meet broader public health needs. In some cases these northern innovations were so successful that they were adopted nationally. Innovation was accompanied, in various periods, by sustained advocacy and

vituperative criticism from groups of medical practitioners or political officials in the north: advocating for new health policies, improved facilities and treatments, more funds, or a focus on certain diseases. In the chapters which follow I examine the extent to which this advocacy was successful, and how more often it was not. Peripherality and the neglect of the north in Accra also meant that over time, a significant degree of healthcare authority passed to non-state organisations. In these chapters I discuss how healthcare and politics interacted in the accumulation of medical authority by Christian health groups (particularly by Catholic missions), and by the World Health Organisation in the years after independence.

This first chapter examines northern health services in the period 1902-1945, from the beginning of colonial rule to the end of the Second World War. In these decades the provision of healthcare was partly shaped by imperial policy, emanating from London, and more substantially by the internal politics and competing priorities of the Gold Coast government and its constituent departments – but not yet by the nationalist politics which characterised the period from 1945 to 1957. Shifts in metropolitan attitudes towards the provision of healthcare and other social goods to African peoples, represented by the changing Colonial Development and Welfare Acts, were reflected in unexpected ways in the development of northern health systems, including in the new rhetorical strategies that 'colonial development' offered to northern critics of the Accra government. Successive attempts to expand the northern health system were undermined by events outside the Gold Coast, including the 1921 and 1929 depressions and the two world wars, and received little support from the growth in healthcare internationalism over the interwar period. For many northern communities, the most significant expansion in access to basic healthcare came with the devolution of spending power to the region's Native Authorities under indirect rule,

which gave rise to a striking expansion in the number of clinics, dispensaries, and local medical staff.

Part 1. Northern health in the early colonial period (c.1902-1930): Neglect, advocacy and depression

Health in the south, and disease across the colony

The north was incorporated into the Gold Coast as the Northern Territories Protectorate in 1902, and by 1906 it had become British policy to use the region as a migrant labour reserve for cocoa and mineral production in the south. With the rapid transition to a migrant-based economy, northern peoples were quickly exposed to the shifting disease patterns and new pathogens that accompanied the expansion of colonial rule. Various researchers have noted how the altered transport routes and demographic dislocations of the early colonial period could expose people to new diseases, even over very short distances.[1] For the north, some health effects of this early colonial disruption would only be felt in later decades, particularly in regard to nutrition, and from new diseases which took time to spread extensively among northern people.

All regions of the Gold Coast were seriously affected by epidemic disease between 1900 and 1920, and particularly by the influenza pandemic of 1918. David Patterson estimated that approximately 3.9 percent of the southern Gold Coast's population were killed by the disease, and 5.5 percent of all people in the Northern Territories (around 30,000 deaths), although reports from district officers suggest that this figure may have been significantly higher, with at least 23,000 deaths estimated for

1 See, for example, G.W. Hartwig, 'Social Consequences of Epidemic Diseases', in *Disease in African History: An Introductory Survey and Case Studies*, ed. Mario Joaquim Azevedo, Gerald W. Hartwig, and K. David Patterson (Durham, N.C.: Duke University Press, 1978), 12, 27; Steven Feierman, 'Struggles for Control: The Social Roots of Health and Healing in Modern Africa.', *African Studies Review* 28, no. 2–3 (1985): 88.

the far north-western and north-eastern districts alone.[2] The influenza epidemic overlapped with the first year of a serious meningitis epidemic in the north, which lasted from 1918 to 1920 and caused more than 4,000 recorded deaths, at a time when there were few medical officials available to observe and report on northern disease.[3] This was the second major meningitis epidemic in the colonial north – the first ran from 1906 to 1908, with more than 20,000 reported deaths.[4] During the first two decades of colonial rule, therefore, it appears that 10 percent or more of the northern population were killed in influenza and meningitis outbreaks, from a population crudely estimated at 362,000 in the 1911 census.[5]

The climate of the southern forest belt meant that meningitis never reached epidemic proportions in the rest of the Gold Coast, although the south was affected by smaller outbreaks of other epidemic diseases during this period: by the plague in 1907-1908, and by yellow fever in 1910-1911.[6] The uneven resources committed to research and control measures for these three diseases (plague, yellow fever, and epidemic meningitis) were indicative of the Gold Coast Medical Department's emphasis on the south, and on diseases affecting Europeans during this early period. Although there were only two small outbreaks of plague (causing less than 500 deaths in total), substantial expenditures on anti-plague measures were maintained throughout the period of British administration. Vaccines were remade annually, and from 1908 into the 1930s, approximately 100,000 rats were caught and killed by trained teams in

2 ADM/56/1/223 (1918-1919) Influenza Epidemic, PRAAD Accra, calculated from correspondence between district officers and Chief Commissioner NTs, 1918, Enclosures. 7-55; 1918 MDAR, 4–6; K.D. Patterson, 'The Influenza Epidemic of 1918-1919 in the Gold Coast.', *Journal of African History* 24, no. 4 (1983): 497–99.

3 GB/0809/Ross Institute Vol.54 Doc.6 (1957), 'African epidemic Cerebro-spinal Meningitis', by B.B. Waddy, LSHTM Archive, London, 7–9.

4 Arthur E Horn, 'Report on an Investigation of Cerebro-Spinal Fever in the Northern Territories of the Gold Coast in 1908', *Transactions of The Society of Tropical Medicine and Hygiene*, 1908, 6–7; 1906 MDAR, 1–7; 1908 NTAR, 18.

5 1913 MDAR, 38–39.

6 1908 GCAR, 4; 1910 MDAR, 49.

coastal towns each year. The rat-killing came to be recognised as having no effect on vector control. 'Little real value is attached to this activity', observed one medical officer, while another considered that it had become an entirely circular exercise: 'The number of rats caught and destroyed during the year is not sufficient to materially reduce the rat population, but the work ensures the training of a nucleus of skilled rat-catchers'.[7] Yellow fever, another of the most dreaded diseases in the European imaginary, was also accorded a disproportionate allocation of resources in relation to its local effects. From 1910 into the late 1930s, yellow fever occupied a singularly prominent position in Gold Coast medical reports, taking up more page space than any other disease, with cases and deaths described individually. This fixation was shaped by the availability of external research funding, giving an indication of the ways in which donor priorities can affect healthcare outcomes.[8] From the mid-1920s, yellow fever research on the Gold Coast was funded by the Rockefeller Yellow Fever Commission, an international charitable organisation; the availability of external funds drew local medical officers into work that made significant research advances, but had relatively little application in the Gold Coast itself. A blood sample collected from an African resident of the Gold Coast was used to develop the world's first yellow fever vaccine, in 1937, but the local mortality from yellow fever was low in relation to the attention the disease received. According to the annual disease returns, yellow fever was responsible for 635 recorded cases and 159 deaths across the Gold Coast from 1900 to 1955.[9] These figures are of course unlikely to be accurate, and the number of cases among African communities is likely to have been much higher. The impacts of yellow fever were nevertheless dwarfed by the scale of sleeping sickness and meningitis

7 1931-1932 MDAR, 19; 1934-1935 MDAR, 16; 1937-1938 MDAR, 18.
8 For examples of the attention given to yellow fever, see 1922 MDAR; 1925-26 MDAR; 1926-1927 MDAR.
9 Calculated from annual case-mortality totals in Gold Coast Medical reports, 1900-1955.

epidemics in the north, although meningitis in particular received little attention over the early colonial period.

These disease control priorities give some context to the early development of Gold Coast health services. Patterson has written about the expansion of medical facilities in the south, and there is no need to repeat his account in detail here.[10] But it is worth noting some particular developments, as comparatives for the discussion of northern healthcare which follows. By 1902, when the north was incorporated into the Gold Coast, the colony's medical department (established in 1885) had gradually been expanding medical facilities at the coast for two decades.[11] Some coastal societies, who had allied with the British in earlier periods, received some forms of preventive medicine for a much longer period. In the 1790s, the British began vaccinating thousands of Fante people against smallpox at the coastal forts, and regular vaccinations were maintained for some coastal communities from the 1820s.[12] As Patterson argues, it is likely that a long exposure to ship-borne trade and in-migration had given coastal societies a measure of resistance to diseases that still posed a risk to people of the northern interior.[13] This increased resistance, access to smallpox vaccination, and the inherent differences in climate and disease ecology between north and south mean that there may already have been a significant degree of divergence in each region's total disease burden, well before colonial medical activity began to entrench this division. Given the difficulties in estimating the disease burden for contemporary societies, using current data, it is impossible to draw any definite conclusions about the relative disease burdens of the Northern Territories and southern

10 Patterson, *Health in Colonial Ghana*.
11 John Parker, *Making the Town: Ga State and Society in Early Colonial Accra*, (London: Heinemann, 2000), 121.
12 PP 1825 XV [39], 'Vaccine Establishment'; and Eugenia W. Herbert, 'Smallpox Inoculation in Africa', *Journal of African History* 16, no. 04 (1975): 547.
13 Patterson, *Health in Colonial Ghana*, 3–4.

Gold Coast in 1900, or indeed at any point covered by this study.[14] In any case, precise estimates are unnecessary. Instead I examine the relative attention and resources devoted to particular health problems in each region, and to the differential improvement of government healthcare, in light of the government's own understanding of health needs at any particular time.

By 1899, nine government hospitals had been established in the Colony, with another hospital at Kumasi in Ashanti. An additional five dispensaries, providing outpatient care, had been built in smaller southern settlements.[15] Although health services were still oriented towards resident Europeans, a growing number of African patients received treatment. Hospitals at Accra, Axim and Keta treated over 8,000 African outpatients in 1900, while Accra, Cape Coast and Keta hospitals treated more than 10,000 outpatients in 1902.[16] By 1905 the Ashanti region's central hospital, in Kumasi, was treating more than 8,000 outpatients a year.[17] There was a steady growth in medical expenditure, with the intention of increasing health provision to African communities around the coastal settlements and Kumasi – a policy of successive Accra governments under governors Hugh Clifford (1911-1919) and Gordon Guggisberg (1919-1927).[18] By 1907 the government was already spending £32,164 a year on medical services, against Medical Department revenues of £978.[19] In 1909, the hospitals at Accra, Axim and Cape Coast treated a total of 31,769 new outpatients, while 9,703 new outpatients were treated at Kumasi Native Hospital (of 40,304 total outpatients treated there that year).20 In 1910, new native hospitals were built at

14 For a discussion of disease burden measurements, see Christopher J.L. Murray and Alan D. Lopez, 'Measuring the Global Burden of Disease', *New England Journal of Medicine* 369, no. 5 (1 August 2013): 448–57.
15 1899 MDAR, (CRL Chicago), 316.
16 1900 MDAR, 7; 1902 MDAR, 2–3.
17 1939 MDAR, 25.
18 For a discussion of their healthcare policy see Arhinful, 'Health Care In Ghana', 40–43.
19 1907 MDAR, 5; This spending adjusts to £29,790,000 in 2017 pounds. See https://www.measuringworth.com/ukcompare/relativevalue.php (Accessed 24/03 2017).

Tarkwa, Akuse and Winneba, and fly-proof hospitals capable of handling sleeping sickness patients were built at Anum, Kumasi and Kintampo – part of the creation of a sanitary frontier with the north, as I discuss in Chapter 4.[20] By 1911 there were 22 hospitals and 29 dispensaries operating in the colony as a whole, with 67 European medical officers and 86 African medical staff.[21] At this time there were approximately 2,500 Europeans living in the Gold Coast. In 1914 for example, at the outbreak of the First World War, there were 788 resident colonial employees, 733 merchants, and 1,080 European miners.[22]

The expansion of southern medical services (treating primarily African patients) proceeded rapidly in the years before the war, and the war itself had little effect on total staffing numbers in the south.[23] Significant staff cuts did take place after the depression of 1921, which reduced Britain's GDP by more than 10 percent and brought a long period of raised unemployment in Britain itself.[24] In 1922 the number of European medical officers in the Gold Coast fell to less than half of its 1915 peak (from 69 to 32 MOs) and total expenditure by the Medical Department was cut by almost 75 percent from the previous year.[25] But in Ashanti and the Colony these figures recovered rapidly during the 1920s. By 1925 there were 72 European medical officers working in the colony, an increase on pre-war levels.[26] An X-ray department was created to serve Accra in the same year, and the improvement of medical services and construction of new facilities continued steadily into the early 1930s.[27] The Great Depression of 1929

20 1910 MDAR, 13-14; 46-47.
21 1911 MDAR, 5–33 and 75; 1912 MDAR, 5–14.
22 1914 MDAR, 14.
23 1915 MDAR, 5; 1918 MDAR, 5–8.
24 J. C. R Dow, *Major Recessions: Britain and the World, 1920-1995* (New York: Oxford University Press, 2004), ch.6.
25 1922 MDAR, 5–10.
26 1925-26 MDAR, 5–6.
27 Ibid., 73 Appendix G.

also caused a temporary slump in southern health provision but, as I argue below, many of its worst and longest-lasting effects were passed on to the north.

By 1931 there were 26 African hospitals with 868 inpatient beds in the south, and six European hospitals with 68 beds. There were also thirty dispensaries providing outpatient treatment, five infant welfare clinics, and nine contagious disease hospitals for African patients.[28] In the Northern Territories there was one European hospital, with six beds, five African hospitals with 98 beds (one of these hospitals was decommissioned that year as a result of the depression), five dispensaries, and no contagious disease hospitals.[29] At the census held that year, the total population of the Gold Coast was recorded as 3,163,568, with 717,275 people resident in the Northern Territories.[30] In other words, after the first 30 years of British administration, the north was home to approximately one quarter of the Gold Coast's population, down from an estimated third of the population at the 1911 census. But it had only 10 percent of the available hospital beds, 14 percent of dispensaries, and no facilities for contagious disease or maternal health.

28 1931-1932 MDAR, 86–89, Appendix A, 'Government Hospital Bed Accommodation And Dispensaries'.
29 Ibid., 89.
30 Ibid., 14; 1930-1931 NTAR, 2.

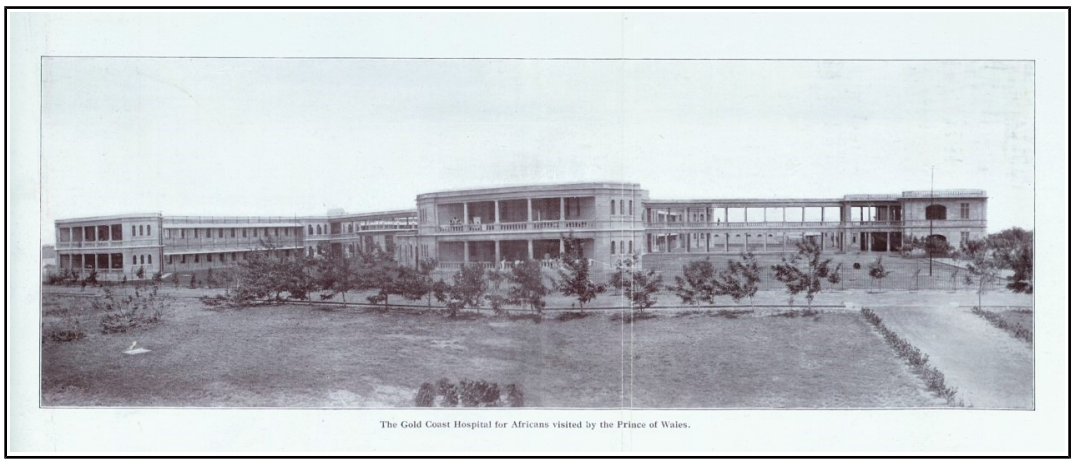

Figure 8. The Gold Coast African Hospital, Accra, 1925. Source: TNA, Colonial Office Photographic Collection, CO 069-37

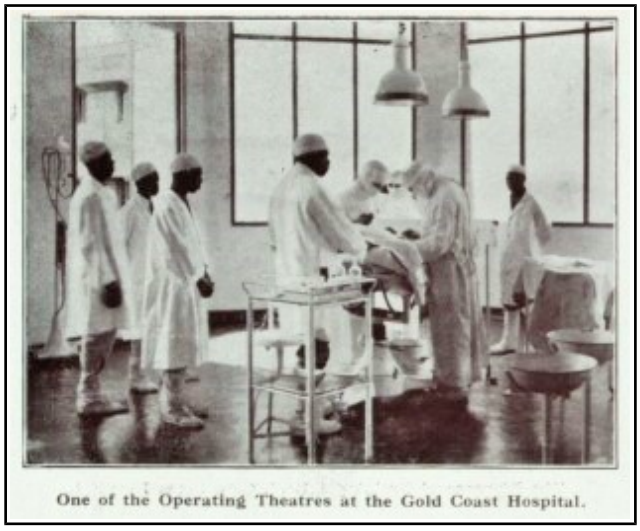

Figure 9. Operating theatre at the Gold Coast African Hospital, 1925. Source: TNA, Colonial Office Photographic Collection, CO 069-37

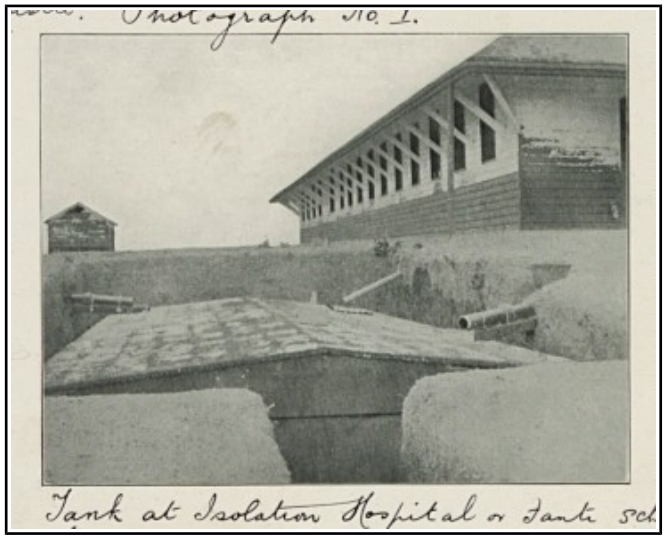

Figure 10. Contagious Diseases Hospital under construction, Cape Coast, c.1920. Source: TNA, Colonial Office Photographic Collection, CO 1069-40-60

Early health in the north

In the first ten years of British rule in the north, there was no consistent policy of extending healthcare to African peoples. Some northern communities were still undergoing 'pacification', and the local government's aim was to maximise revenues through a tax on trade caravans passing south from French territory, while avoiding expenditures unrelated to the maintenance of British personnel. The organisation of northern healthcare may have actively deterred communities from seeking treatment – at northern stations from 1902-1914, medical officers were responsible for managing prisons and gathering fines.[31] As Ines Sutton has argued, the north in this early period was more of an externality than a periphery to the Gold Coast economy: 'the notion of "interior" did not in practical terms extend beyond Asante'.[32] This gradually changed, as low-cost northern migrant labour became central to southern production.[33] But although the region's labour made it an increasingly important component of the overall Gold Coast economy, this did not stimulate government investment in the region itself. As Roger Thomas argues in his study of northern schooling, the policy of developing the region as a labour reserve may have militated against investments that promoted local health and welfare, particularly those that diminished the migrant 'push' factor or otherwise reduced the labour supply.[34]

This appears to have been the case for the provision of healthcare. The first decade established recurrent problems – or perhaps administrative principles – which contributed to the divergence of northern and southern healthcare over time. Among the most enduring limitations was a consistently low allocation of funds from Accra. British colonialism of the early 1900s was not guided by the relatively vague

31 See 1899 MDAR, 316; 1909 NTAR, 11; 1910 NTAR, 10.
32 Sutton, 'Colonial Agricultural Policy', 639.
33 See 1906 NTAR, 9–10; A. E. G Watherston, 'The Northern Territories of the Gold Coast', *Journal of the Royal African Society* 7, no. 28 (1908): 344–73.
34 See Thomas, 'Forced Labour', 79–103; Thomas, 'Education in Northern Ghana'.

developmental principles of the later Colonial Welfare and Development Acts. But the principal of advancing some local welfare, by means of direct loans from Britain, had been established by the Colonial Office in 1895.[35] As indicated above, people in the southern Gold Coast and Ashanti benefited from a rapid expansion in healthcare capacity under this dispensation, with expenditure far in excess of revenues collected by the Medical Department. The north, however, was governed with the idea that spending should not exceed revenues, and the Accra government was consistently reluctant to allocate the region a proportionate share of the annual budgetary vote for medical services. In 1907, for example, the Medical Department's discretionary budget was £4,239,of which £3,977 was spent on the Colony and Ashanti, with £260 allocated to the Northern Territories.[36] In some years the north's funds were exhausted, all development was halted, and medical facilities were left half-built. In 1910, for example, soon after building commenced on the region's first dedicated African hospital (at the new regional headquarters of Tamale), the region's Chief Commissioner recorded that:

> Towards the end of the year under review, our vote was exhausted, and all work was shut down. This was most unfortunate as of course the last two months of the year and the first three are those most suitable for building. The dry weather has set in and labour is available ... The main portions of [the hospital] are finished; but numerous buildings, such as mortuary, dresser's quarters etc., remain to be done.[37]

In the years before the First World War, the pressure to generate revenues from the north meant that health services were seen as a source of income, especially when the north's principal source of revenue – the caravan tax – was abolished in 1909, under pressure from the Accra government and southern trading companies.[38] When

35 E. R. Wicker, 'Colonial Development and Welfare, 1929-1957: The Evolution of a Policy', *Social and Economic Studies* 7, no. 4 (1958): 172–75.
36 1907 MDAR, 9–10.
37 1910 NTAR, 17.
38 1909 NTAR, 7.

the ‘health’ or ‘sanitary’ branch of the Medical Department was created the following year, its system of sanitary fines was immediately co-opted as a source of northern revenues. In 1910 the northern government earned £319 in sanitary fines from the new and relatively small settlement of Tamale, compared with £313 raised from sanitary fines in Accra, the Gold Coast’s largest town.[39]

Figure 11. The town of Tamale in 1929. Source: TNA, Colonial Office photographic collection CO 1069-40-50

These fines were ostensibly intended to support the development of sanitary infrastructure: latrine systems, wells, water tanks, refuse collection, drains and sewers, or public slaughterhouses, among others, and improvements of this kind were underway in most larger settlements in the south. But the 1910 Annual Medical report reported no planned sanitary work for any settlement in the Northern Territories, and this continued to be the case in subsequent years: the north was consistently not

39 1910 MDAR, 55.

included in planning for sanitary improvements, nor in annual tours of inspection to assess regional sanitation needs.[40] In 1914, the Colony and Ashanti spent £52,608 on sanitary improvements, while total sanitary spending for the Northern Territories (almost all of it in Tamale) was £1,496.[41] In the years before the war, therefore, the central focus of public sanitation in the north was the generation of revenues by imposing fines. The revenue-generating aspects of colonial sanitation have been noted for other regions and colonies, but this appears to have particularly acute in the Northern Territories, where the only Health Branch officials employed before the war were 'inspectors', rather than technicians or Medical Officers of Health.[42] 'Health' offences were the most common cases brought before northern magistrates in the mid-1920s, and this focus on fines and revenues continued until the turn to Native Administration in the 1930s.[43] In 1937, after the north's Native Administrations had launched their own programmes of sanitary improvements, a northern official observed how the previous system had created a lasting distrust of government health work:

> The people were fined, or in default of payment, imprisoned for acts of omission or commission which they did not know to be offences against our health laws. Punishment preceded education with the result that officers of the Health Department came to be regarded as pests and not benefactors to the community. The title "summer-summer" (summons-summons) which they acquired, accurately describes the attitude of the people towards them.[44]

In this early period, before the war, another pattern was established which would continue well into the 1930s: the inflation of northern healthcare provision in official reports published in Accra or London. The number of claimed health facilities or personnel fluctuated greatly from year to year, changing when more stringent definitions of an acceptable 'hospital' were applied, or when inspections revealed that

40 Ibid., 55–56; And see, for example, 1912 MDAR; 1913 MDAR; 1914 MDAR.
41 1914 MDAR, 20.
42 1913 MDAR, 16–17.
43 1924-1925 NTAR, 10–11.
44 1937-1938 NTAR, 77.

previously claimed facilities either did not exist, or had been built but never staffed. In 1904, when the Northern Territories administration was still based at the north-eastern town of Gambaga, it was reported that there were four hospitals in the north: at Gambaga, Kintampo, Salaga and Wa.[45] In 1909, the colony's annual report claimed that there were now eight hospitals, at Tamale, Salaga, Wa, Bole, Gambaga, Bawku, Navrongo and Lawra.[46] By 1913, however, what counted as an acceptable African hospital had changed, and the number of facilities depended on which group of officials compiled a particular report. The Medical Department recorded only one functional hospital in 1913, at Tamale, with a second under construction at Salaga: all other medical facilities were now considered 'bush hospitals', and not listed in official totals.[47] But in 1917, towards the end of the war (during which no public works had been carried out in the region), the political administration again reported that there were nine government hospitals in the north. In fact only two of these (Tamale and Salaga) were permanent structures built by the colony's Public Works Department, while the other seven hospitals were temporary structures made with mud 'swish' and grass roofs. The report observed that 'little, if any, advantage is taken of them by the natives', perhaps because there were no medical officers in residence.[48] In 1922, the annual report listed only three staffed government hospitals at Tamale, Wa, and Gambaga (the apparently permanent facility at Salaga had fallen from the list), while in 1924 the north's three permanent hospitals were reported to be at Tamale, Wa, and Zuarungu.[49] In 1926, the government recorded that the only 'good' native hospitals were at Tamale and Salaga, which had returned to the list after being used as a school

45 1903-1904 MDAR, 27–29.
46 1909 NTAR, 11.
47 1913 MDAR, 32–33.
48 1917 NTAR, 6.
49 1922-1923 NTAR, 22; 1924-1925 NTAR, 10–11.

for some years. There were also 'bush-type' hospitals at Wa, Zuarungu, and Yendi.[50] In 1928, the administration reported that there were now native hospitals at Tamale, Salaga, Wa, Lawra, and Zuarungu, with an unstaffed hospital at Gambaga.[51] These totals and locations continued fluctuating into the mid-1930s, when Gold Coast Governor Ransford Slater, having toured the north, concluded that the lack of adequate hospital facilities was 'nothing short of a scandal'.[52] Shifting and often inflated accounts of the north's medical facilities, presented to colonial planners in official reports, may have influenced decisions to allocate an adequate share of budgetary funding to the region.

Northern health after the First World War

The First World War slowed colonial development across the Gold Coast, including the provision of medical services. Some of the war's farthest-reaching effects were felt in the Northern Territories, as southern gold production was stepped up and an increasing number of northern migrant workers were recruited for the mines. The region was also the colony's central military recruiting ground, with men from the north making up approximately 90 percent of the total Gold Coast Regiment.[53] In relation to other African communities of the Gold Coast, northerners were also disproportionately large financial contributors to the war, when Britain requested donations from African subjects through the Imperial Fund. Officials praised the Northern Territories, saying that the region's contribution had been surprisingly generous, given its people's known poverty in relation to the south.[54]

50 1926-1927 NTAR, 6.
51 1928-1929 NTAR, 7.
52 Slater, quoted in Patterson, *Health in Colonial Ghana*, 19.
53 1918 NTAR, 2–3.
54 Nana James Kwaku Brukum, 'The Northern Territories of the Gold Coast under British Colonial Rule, 1897-1956: A Study in Political Change.' (Thesis, University of Toronto, 1997), 163.

After 1913 there was a fall in food production, as more of the region's most capable agricultural workers were recruited for the war or the mines, and the northern economy was also seriously damaged by outbreaks of epizootic diseases among cattle herds, related to the increase in demand for meat exports at the coast. It was estimated that up to 50 percent of cattle owned by communities in far north had died during the outbreaks, prompting a turn to guinea fowl as a principal source of protein.[55] By the end of the war many foodstuffs had become unavailable inland: officials reported that market goods at Kumasi had became prohibitively expensive for northern traders.[56] It was against this background that first epidemic smallpox, then the influenza pandemic, and then epidemic meningitis took hold in the region. The ability of the Northern Territories medical service to respond, if only to the extent of recording the impacts of these diseases, was limited by staffing reductions that had been passed northwards after the war began. By 1915, the Medical Department reported that for the north, 'whole districts have been shut down as far as medical work is concerned, and sanitary inspection has come to a standstill'.[57]

At this stage in the administration of the Northern Territories, this was not necessarily of great concern. In 1918, the Chief Commissioner reported that 'the reduction of the political and medical staffs of the Protectorate, owing to the exigencies of the war, has effected a considerable saving in expenditure this year'.[58] However, the need for healthy military recruits did lead to an expansion of smallpox vaccination in the north, administered by Native Vaccinators from the south.[59] The sustained presence of southern personnel in the provision of northern health services would be another

55 See 1917 NTAR, 3; 1918 NTAR, 5.
56 1918 NTAR, 6.
57 1915 MDAR, 19.
58 1928-1929 NTAR, 3.
59 1918 MDAR, 26; 1917 GCAR, 44; 1918 GCAR, 45.

theme sustained across most of the century, resulting from the low priority and limited resources given to training local people as health practitioners.

The beginnings of local advocacy

The effects of the war were followed by the effects of the 1921 recession, which led to immediate reductions in the number of health and medical staff. Although there was a swift rebound to pre-war staffing numbers in the Colony and Ashanti, this was not the case in the north.[60] 'The Provincial Medical Officer reports that the Protectorate is understaffed with Medical Officers, and strongly recommends an increase as early as possible', noted the Annual Medical Report in 1920. But the number of northern medical officers remained depressed into the late 1920s, and in 1925 there were only three British medical officers at the region's hospitals (of 72 MOs in the colony), rising to five by 1928.[61] However, this relatively mild official complaint, and others like it in the early 1920s, marked the first beginnings of sustained local advocacy and criticism of the Accra government by northern officials, who were motivated by their perception of a growing disparity between northern needs and the actual allocation of government healthcare resources. These advocacy efforts increased steadily for 12 years following the war, until they were temporarily dissipated in the cuts and staff losses of the Great Depression.

In the 1920s, rising local advocacy may to some extent have been shaped by a sense of obligation to communities that had made a disproportionate contribution to Britain's war effort. Veterans returned in large numbers to the north after the war, many of whom were co-opted to impose quarantine measures and seal off transport links

60 1925-26 MDAR, 5–6.
61 1926-1927 NTAR, 6; 1928-1929 NTAR, 7.

during the meningitis epidemic of 1919-1920.[62] But calls for government action were more clearly driven by the growing recognition that northern peoples were the most seriously affected by almost every major disease of the Gold Coast. The meningitis epidemic, which followed immediately after influenza, gave rise to initial advocacy efforts by concerned northern medical officers. These officers convinced the Gold Coast Medical Department that increased expenditures and expended healthcare provision were urgently needed, and the department took up the cause of northern health reform with the political administration at Accra. Because northern medical officers had raised a sanitary cordon using returned military recruits, which excluded trade caravans and closed all north-south roads running through the Northern Territories, the 1919 meningitis epidemic also put pressure on the southern food and mining labour supplies, at a time when Britain was seeking to maintain production and boost its gold reserves.[63] These material effects of northern disease on the southern economy, which across the century were among the greatest determinants of increased budgetary allocations from Accra, arguably gave northern officials' medical advocacy of the 1920s a greater political weight than it had carried previously. 'The epidemic has at least led to exposure of the medical and sanitary needs of that region,' acknowledged the Medical Department's annual report in 1920:

> It becomes apparent ... that a trained and fairly intelligent native staff working under adequate European direction both political and medical, is necessary, whether to limit an outbreak once started or to lay the foundations of a quiet but progressive campaign of enlightenment and sanitary improvement which may render future outbreaks less likely.[64]

In light of advocacy following the influenza and meningitis epidemics, existing southern health legislation was extended to the north. The Infectious Diseases

62 1919 MDAR, 11–15.
63 1920 MDAR, 18–19; 1919 MDAR, 11–16; And see also Thomas, 'Forced Labour', 91–103.
64 1920 MDAR, 18.

Ordinance (1918) allowed medical officials to declare settlements or areas 'infected' and impose quarantine measures, while the Vaccination Ordinance (1919) permitted compulsory vaccination against smallpox and other diseases. Both laws enabled the use of physical coercion against those who refused.[65] As I discuss in Chapter 3, legislation of this kind also underpinned the Ghana-WHO campaign to eradicate smallpox in the 1960s-1970s, perhaps the most far-reaching and coercive of all medical campaigns over the century. In 1921 the local administration also created the Northern Territories Regulation of Towns and Villages Rules, the first laws regulating urban sanitation in the region.[66] These new laws conferred substantially increased powers on northern medical officers, allowing them to segregate or detain people, destroy property, and use other coercive measures over African subjects. Many attempts at disease control were physically coercive, and the use of these methods was sometimes shaped by the flawed medical reasoning or reputation-seeking of individual officers. From another perspective, however, the legislation gave local medics the power to shape northern healthcare with a reduced deference to southern political and economic concerns. As I discuss in Chapter 4, on sleeping sickness, commercial interests in Accra often lobbied against the imposition of public health measures that would diminish the southwards flow of labour. Despite their coercive qualities, laws of this kind arguably established the basis for expanded public health services in many states: in places which were never under colonial rule, and in Britain as much as its colonies. In some of the historiography on colonial medicine there is a tendency to adduce all medical activity to the particulars of the colonial environment, instead of considering developments in

65 1918 NTAR, 9; 1919 MDAR, 11–12; 1920 MDAR, 15–17; Although it was enacted as a colony-wide law, the Vaccination Ordinance was only officially gazetted for the Northern Territories in 1932. See 1934-1935 MDAR, 3.

66 1921 MDAR, 11.

colonial Africa (and elsewhere) as representative of generalised shifts in public health policy around the world.[67]

The 1919-1920 meningitis epidemic gave rise to initial local advocacy about the neglect of health services in the north and, in the years that followed, this advocacy was sustained by successive revelations about the disease burden on northern societies. Medical officers protested about the rapid spread of tuberculosis among migrant labourers who had travelled to the southern gold mines, and the extent of mortality among these workers meant that mine recruiting was temporarily suspended in the north from 1924.[68] Similar concerns were successively raised for other health problems too, as indicated by the following quotes from reports between 1923 and 1932, which acknowledged that the north had the greatest burden of many common diseases:

> 1923: 'Guinea Worm prevails mostly in the Northern Territories of the Gold Coast, or in persons who have come from these Territories'[69]
>
> 1926: '[Filariasis] is met with in small numbers throughout the Colony but is common among the Northern Territory tribes'[70]
>
> 1926: 'The higher incidence [of tapeworm] in members of the Northern Territory tribes was confirmed'[71]
>
> 1928: 'Yaws is still most common in the Northern Territories'[72]
>
> 1928: '[Eye diseases] are very prevalent in the Northern Territories ... cases of severe conjunctivitis with corneal liberations leading to opacities and often to blindness are very common. In the forest and coastal belt eye diseases are fortunately not common.'[73]
>
> 1928: '[Skin diseases] are exceedingly common, especially in the Northern Territories'[74]

67 For a discussion of this tendency, see Michael Worboys, 'The Colonial World as Mission and Mandate: Leprosy and Empire, 1900-1940', *Osiris* 15 (2000): 207–18.
68 1924-1925 MDAR, 19–21; Thomas, 'Forced Labour', 97.
69 1923-1924 MDAR, 15.
70 1926-27 MDAR, 21.
71 Ibid., 26.
72 1928 MDAR, 26.
73 Ibid., 14–15.
74 Ibid., 14.

1928: '[Hookworm] is met with for the most part within the Northern Territories'[75]

1928: 'In the Northern Territories, [scabies] is ... almost universal. Starvation may play a part in predisposing to the disease in the Northern Territories though not in the Colony, further south.'[76]

1928: 'The majority [of tuberculosis cases] are in labourers recently from the Northern Territories … the whole problem is beginning to assume serious proportions in this relatively non-immune population'[77]

1931: 'Diseases of the respiratory system, apart from pulmonary tuberculosis, occupy first place amongst the list of the chief causes of registered deaths ... these diseases are particularly common in many tribes in the Northern Territories'[78]

1930: 'In the Northern Territories, especially where water shortages occur ... the craw craw is very prevalent, and there appears to be frequently a co-relation between the sites commonly affected by craw craw and the initial lesions of leprosy.'[79]

1932: 'In the Northern Territories the case incidence [of leprosy] per mile is probably about six times as high as that of the Colony.'[80]

These reports give a strong indication of the divergence in disease burden and health standards between the north and south by 1930, as government spending improved the south's sanitation and water, and expanded its medical facilities.[81] In relation to yaws, for example, it was observed in 1930 that 'on the seaboard ... where improvements have been effected in village sanitation and where medical officers in charge of hospitals and welfare centres have been engaged in an anti-yaws campaign, the disease is rapidly being brought under control and is a fair way to being stamped out'.[82] As criticism from medical officers and other northern officials became more

75 Ibid., 27.
76 Ibid., 127 Appendix E, Report from officer for British Empire Leprosy Relief Association.
77 Ibid., 25–26.
78 1931-1932 MDAR, 33.
79 1930-31 MDAR, 155.
80 1932-1933 MDAR, 21.
81 Although people in the north were found to have significantly better dental health than those in the south, as they were unable to afford imported foods. See 1929 MDAR, 10.
82 1931-1932 MDAR, 21.

strident over the 1920s, the gap between north and south was increasingly recognised by the government at Accra, although there was little additional allocation of resources or personnel as a result. There was a persistent tension between the north as an apparently equal administrative division of the Gold Coast, with a justifiable claim on the developmental expenditures that the government had at its discretion, and its actual situation as the colony's marginal labour reserve, not a site of export production or revenue generation in itself. Guggisberg, an activist governor in terms of developmental spending, made reference to this tension in 1925:

> The country is more than fifty years behind Ashanti and the Gold Coast Colony in progress from a primitive to a higher state of civilisation. The difference between the peoples of the Northern Territories and those of the south is very marked. Drought, pestilence, famine and rare contact with Europeans have all tended to keep the Northern Territories tribes in a very primitive state ... the people, if not actually starving, are seriously underfed. The general effect of this is not actually to a rise in the scale of civilisation. The races are hardy, however, and although they possess some weaklings through under-feeding and disease, they form the chief source of labour supply in the south.[83]

It is evident that early governments in the Gold Coast took little account of absolute need in their plans for the expansion of health services. With little response from Accra, action against northern health problems was instead often driven by the initiative of local medical officers: for example, the work of Dr W. Greer, stationed at Wa, who travelled to outlying villages and treated approximately 45,000 people for yaws in 1926-1927.[84] In other cases, healthcare improvements were funded by northern people themselves. Locally-funded facilities included the Navrongo War Memorial Hospital, built in the north-east in 1930. Construction of the hospital was organised by local chiefs in collaboration with activist district officers, and financed by a one-shilling payment from each compound in the surrounding communities. Perhaps

83 Guggisberg, 1925, quoted in 1937-1938 NTAR, 53.
84 1926-1927 NTAR, 10.

because the project was intended to commemorate the people's contribution to the First World War, district officers were able to secure a further £100 in funding from the colonial government, and the commitment that an adequate medical staff would eventually be provided.[85] The War Memorial hospital continued to be among the north's busiest medical hospitals for most of the following century, and contributed to the later development of Navrongo as Ghana's principal centre for internationally-funded public health research.[86]

Rising internationalism in African health

In 1927, the staff of the government's Medical Research Laboratory in Accra was larger than the total medical and sanitary staff of the northern Territories.[87] This was not entirely the result of neglect of the north, however: it also pointed to the evolution of public health internationally, as transnational and non-governmental health institutions began to proliferate in the interwar years. The 1926 International Sanitary Convention changed the way that states interacted with one another in terms of disease surveillance, placing an emphasis on the sharing of information, and the League of Nations health section attempted to coordinate disease control between states, including African colonies.[88] Its involvement had some immediate effects. In 1927, the Gold Coast Medical Department reported that 'probably as the result of the activities of the Health Section of the League of Nations, the liaison between this Colony and

85 NRG/8/7/9 (1949-1951) Medical Dept. Ten Years Development Plan, PRAAD Tamale, Enc. 13 p. 28: 'Notes on a Meeting with the Director of Medical Services', undated, 1949.
86 See Chapter 3
87 1927-1928 MDAR, 46–47.
88 For a discussion see A. Sealey, 'Globalizing the 1926 International Sanitary Convention', *Journal of Global History* 6, no. 3 (2011): 431–55; H. Cummings, 'The International Sanitary Conference', *American Journal of Public Health* Vol. 16 (October 1926): 975–81.

neighbouring administrations in matters affecting public health has improved out of all knowledge in the past year or so'.[89]

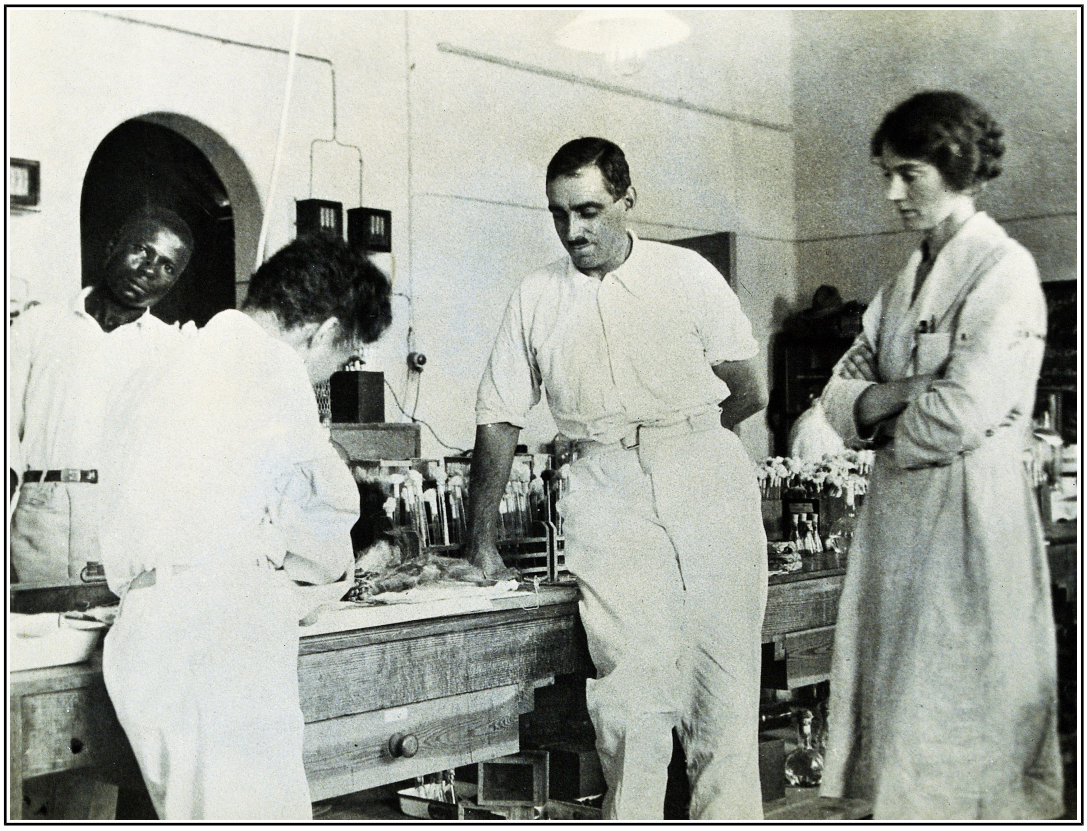

Figure 12. The Japanese researcher and Nobel prize-winner Hideyo Noguchi conducting yellow fever research in the Accra laboratory, funded by the Rockefeller Commission, c.1928.
Source: Wellcome Library, V0030931

Work at the Accra laboratory was boosted by funding from the Rockefeller Yellow Fever Commission – the effects of this increasing public health internationalism were most clearly felt in the south, where the British Red Cross also established a significant presence from the 1930s, as I discuss below.[90] In the north, the local provision of health services was influenced in the mid-1920s by the arrival of officers from the British Leprosy Relief Administration (BELRA). Employed by an independent organisation with influence in Britain itself, and not directly answerable to the government at Accra, BELRA's northern medical staff were instrumental in

89 1926-27 MDAR, 23.
90 1927-1928 MDAR, 46–50.

publicising the extent of leprosy in the region, and in raising broader concerns about the state of northern health. The presence of an independent medical observer of this kind may have encouraged local medical officers to share their concerns, as took place with onchocerciasis and the British Empire Society for the Blind in the 1950s.[91] There is at least a correlation between the arrival of BELRA officers and the rapid official recognition of northern disease problems in 1928, many of which were reported both by these officers and by local officials.[92] As Michael Worboys has argued, the organisation's arrival in colonial Africa marked (and BELRA itself was a conduit for) a broader turn towards 'medical humanism' among some colonial medical staff, and an early manifestation of the development and welfare discourses that gained traction in some spheres of colonial activity over subsequent decades.[93]

The Great Depression and northern healthcare

BELRA's involvement in the north ended with the Great Depression, when its medical officer was withdrawn from the region. 'Since the abolition of that special post, leprosy has diminished, at least on paper, to a very considerable extent,' noted the medical department: the number of northerners treated for leprosy fell by more than 50 percent in 1931.[94] This was one of many far-reaching effects of the depression, in which the impacts of distant financial turmoil were rapidly felt in the provision of Northern Territories healthcare. Reductions in health services took place against a backdrop of general economic decline in the region. As trade collapsed, the employment available to northern migrants rapidly declined, as observed in a report from 1930:

91 See Chapter 5 on onchocerciasis
92 See, for example, 1928 MDAR, Appendix E, Report from officer for British Empire Leprosy Relief Association.
93 Worboys, 'The Colonial World as Mission and Mandate', 207–18.
94 1933-1934 MDAR, 100–102.

> There has been a lot of unemployment, especially in the large cacao centres, and cases of destitution have been frequently met with. Wages have again been reduced, but prices of essential foodstuffs and rents have not decreased in proportion. The majority of labourers are recruited from the Northern Territories and these labourers often arrive in Ashanti and the Colony in an unfit condition. Owing to depression, there has not been the same exodus as in former years from the Northern Territories.[95]

The costs of foodstuffs and other goods became prohibitively high in the north itself. Staffing cuts were made across all branches of the northern administration, and for two years no annual reports on the region were compiled. When reporting resumed in 1932, the North's reports were not printed and bound for a broader colonial readership, as they had been in the past. From 1933-1937 there were only typewritten pages, submitted by northern officials and retained by the Accra government without formal publication. The depression had immediate impacts on healthcare, and it was anticipated that the provision of medical services might become a voluntary matter for regional administrations:

> The strain thrown on the ordinary Medical Officers remaining has not really been relieved by a drop in the number of cases treated. The unfortunate results of still further retrenchment are envisaged, and the possibility of fresh reorganisation and development on voluntary lines foreshadowed ... It is in the outlying areas that the effect of a reduced staff has been most severely felt. This curtailment of ordinary medical services involved a corresponding reduction in the health services in these areas, and the brunt of the economy measures fell therefore with a very serious double effect on the more remote stations.[96]

Because communities in the north-east had nearly completed construction of the Navrongo War Memorial Hospital, built with their own funds, the Accra government elected to close one of the north's existing hospitals at Zuarungu, reporting in 1931 that 'the wretched building which has for long passed as a hospital will be evacuated as soon as Navrongo is opened'.[97] But in 1935 there were still no trained

95 1930-31 MDAR, 37.
96 1931-1932 MDAR, 5; See also 1935-1936 MDAR, 26.
97 1931-1932 MDAR, 39.

medical officers at the Navrongo hospital, leading to recriminations from northern officials who argued that surrounding communities had only built the hospital 'on the understanding that there would be an MO posted there'.[98] In 1933 a newly-built hospital at Lawra-Tumu was also closed as a cost-saving measure, although it had treated more people than any other northern facility in the year since it opened (10,112 outpatients in 1932).[99] A travelling dispensary scheme, introduced to fill the existing shortfall in health provision at fixed facilities in the north, was shelved in 1932.[100] Most medical postings in the north remained unfilled five years after the onset of the depression itself, and in 1934 there were only three British medical officers based at hospitals in the region.[101] 'It is realised that the financial position does not permit the employment of additional medical officers,' reported the northern government, which complained that the sanitation budget allocated to the region by Accra represented only £1 of spending for every 1000 people. 'The inadequacy of present medical facilities … is abundantly proved by the figures'.[102]

These developments indicate the broad state of northern health provision over the first thirty years of colonial rule (1902-1929). Relatively high government spending (in excess of revenues) meant that permanent healthcare facilities had expanded rapidly in the south, village sanitation had improved, and diseases like yaws and guinea worm had been brought under control in many districts. In the north, the disease burden instead appears to have increased over the first decades of colonial rule, while epidemic disease and the development of the north as a migrant labour reserve reduced the labour power needed to sustain adequate northern food production. Although the health needs of the region were increasingly recognised, at least within the Medical Department and

98 1934-1935 NTAR, 86.
99 1933-1934 NTAR, 40–47.
100 1932-1933 MDAR, 74.
101 1934-1935 NTAR, 87.
102 1934-1935 MDAR, 86–88.

by northern officials, this did not led to a concomitant increase in budget allocations by the political administration at Accra. Instead, when down-turns in the global economy (through war or economic depression) put pressure on Britain's finances, the Gold Coast administration consistently made significant reductions in northern health services, relative to similar cuts in other regions.

The north as a zone of disease

There is another feature of this early period which deserves attention, as it continued to shape healthcare provision and the north-south relationship for the rest of the century. This was the enduring perception of the north as a zone of disease, and hence a threat to the southern economy, which emerged at the same time as the north was inducted into that economy as its principal labour reserve. When major disease outbreaks took place in the Northern Territories in these early decades, the principal medical response from Accra was often aimed at protecting or isolating the south from northern contamination, whilst preserving the flow of northern labour migrants and imported livestock from French West Africa. This was evident during the first major meningitis epidemic in 1906-1908, when the main response was the construction of a string of isolation camps linking the French border and Ashanti, intended to segregate trade caravans and cattle importers from northern communities.[103] The same measures were used during the 1919-1920 epidemic, when trade was again kept flowing through the region while caravans were prevented from trading in the north itself.[104] During this epidemic, a central government concern was the possibility that the disease could spread southwards into Ashanti, as some cases were found along the Northern Territories-Ashanti Border, and this received greater attention than the disease in the

103 Horn, 'Investigation of Cerebro-Spinal Fever', 27; 1908 MDAR, 2–5; 1908 NTAR, 40.
104 1919 MDAR, 14–15.

north itself. ‘It has not been possible to carry out tours of inspection with any degree of regularity, but the epidemic of Cerebro-spinal Fever in the north has necessitated a close investigation in North Ashanti,’ reported the medical department. ‘Its endemic existence in the Northern Territories is accepted... the most important new feature is the extension of its range’.[105]

A similar pattern took place during the Gold Coast sleeping sickness scare of 1909-1912, which I discuss in more detail in Chapter 2. Although there were strong indications that the disease was most prevalent in the Northern Territories, the Medical Department instead focused efforts on determining its presence in northern Ashanti, and subsequently on isolating Ashanti and the southern colonies. The possibility that sleeping sickness was spreading in Ashanti prompted an intensive investigation of rural communities in the province, with the employment of additional medical officers and the construction of fly-proof isolation hospitals on the major trade routes from the north.[106] The same process took place during the mid-1920s, at a time when sleeping sickness was spreading rapidly in the Protectorate – an intensive survey was carried out on the Ashanti border, but did not extend further north.[107] In each case, the disease did not generate significant concern once it was established that it did not threaten the south, even though it was recognised that the passage of people and livestock from French territory through the Northern Territories made local people vulnerable to infection. The extent of human sleeping sickness in the north was first discovered incidentally, by medical personnel tasked with examining imported livestock in transit at Yeji, on the borders with the south.[108] The discovery generated relatively little interest at the time, and investigations ceased with the 1929 depression. It was only in the mid-

105 1920 MDAR, 10; 18.
106 1909 MDAR, 34; 1910 MDAR, 46–47; 1911 MDAR, 34; 48-49.
107 1924-1925 MDAR, 45–51.
108 1928 MDAR, 72; and see also Scott, *Epidemic Disease in Ghana*, 144.

1930s, when human sleeping sickness began to cause wholesale disruptions to the southwards flow of labour and cattle, that the northern prevalence of the disease was recognised in Accra.

The same process took place in regard to diseases of cattle. The Northern Territories were the concentration point for an expansive livestock trade linking the West African interior to the southern ports of the Gold Coast, with animals driven from as far away as Morocco according to some reports.[109] In 1910, a group of local medical officers conducted research to show that anthrax, bovine pleuropneumonia and rinderpest were being spread to the north by trade herds brought down from French West Africa, and the northern government requested an investigation to find ways of 'controlling the importation of cattle and the supervision of beasts in transit through the Protectorate'.[110] But priority was given to maintaining the import trade at the expense of northern herds, particularly during the war. By 1917, it was argued that cattle disease was endemic in the north, and therefore it was unnecessary to control imports or limit the risks of disease transmission from incoming livestock, particularly since a sufficient number of healthy cattle were still available to traders in Accra :

> In spite of outbreaks of rinderpest and anthrax among the herds owned by natives of the north-eastern and north-western provinces … which in many cases carried off over 50 per cent of the cattle, the number of beasts passing through the Protectorate into Ashanti and the Colony compares favourably with that of the preceding year.[111]

Northern communities continued to regularly lose a large proportion of their livestock to cattle diseases into the late 1920s, when the first vaccination programme

109 In 1918, the District Commissioner of Salaga reported a trader who had brought 125 cattle into the Northern Territories after four month's journey from Morocco, losing 115 of them to disease once corralled in the north. See ADM/56/1/46 (1904-1927) NTs administration, reorganisation of, PRAAD Accra, Letter from District Commissioner, Salaga, to Chief Commissioner, Tamale, 6 August 1918.

110 1910 NTAR, 7.

111 1917 NTAR, 3; See also 1918 NTAR, 5.

began.[112] In regard to diseases of both animals and humans, some colonial officials appear to have seen the north as a zone of irredeemable endemicity, which did not merit health expenditures that could be more effectively used to limit the southwards spread of infection. This view of the north, as inherently diseased, was intensified as sick and destitute northerners became an increasingly common sight in the colony's economic heartlands, although in many cases it was malnutrition and poverty which exposed them to infection by southern disease. During a relapsing fever epidemic in Accra in 1923, for example, officials recorded that:

> Infected males belong almost exclusively to an immigrant tribe who come into the Accra district from their Northern Territory villages in search of work and money … The great majority of the cases in Accra occurred in the Tudu and Zongo road areas where the inhabitants are almost entirely members of Northern Territory tribes or Hausas, both of whom live under unhealthy conditions, crowded together into insanitary corrugated iron structures lacking both light and ventilation.[113]

For many northern men during this period, the most extensive medical attention they received was at the moment of labour recruitment in the north, when they were examined and vaccinated, or at screening stations in the south for those who arrived without agreed employment. In 1924, for example, the only recommended sanitary work relating to the Northern Territories was a request for medical officers to be stationed at the town of Koforidua in the south, to inspect northern recruits before they were dispersed to mines or farms, and by the 1930s the main 'disinfesting station' was located just north of Kumasi.[114] In conversations with many southern Ghanaians over the course of this research, it was clear that the north continues to be seen as a place of disease, and that northerners are still sometimes seen as inherently diseased or

112 1920 NTAR, 6; 1927-1928 NTAR, 5; 1928-1929 NTAR, 3; 1929-1930 NTAR, 15.
113 1923-1924 MDAR, 12.
114 1924-1925 MDAR, 23; 1936-1937 MDAR, 4; And see Brukum, 'Northern Territories under British Rule', 223.

lower class. Carola Lentz found that the word *ntafo,* a derogatory Twi term which she encountered in the late 1980s, was considered by some Twi-speakers to have evolved from the colonial-era abbreviation for Northern Territories – NTs – so that *NTafo* simply means 'a person from the NTs'.[115] Whether this etymology is correct or not, some enduring southern perceptions of the north were established in light of its health problems in the early colonial period, from 1902-1930, when it began to fall behind other regions in the provision of health services and the resultant burden of disease.

Part 2. Northern health from 1930 to 1945: Epidemics, renewed advocacy, and local inventions

Northern health and inter-war internationalism

In the decade which followed the Great Depression, both northern and southern health services grew: in the north from the mid-1930s, as a result of the advocacy and local initiatives which form the main focus of this section, and in the south as a continuation of the region's pre-1929 expansion. A noticeable feature of this period was the slow turn towards an increasingly 'developmental' colonialism, which included the provision of better healthcare. This was to some extent the result of a policy shift in Britain, leading to the passage of the 1929 Colonial Development Act. Britain had ostensibly accepted the principle of native paramountcy for its colonies – the idea that 'the interests of the African natives must be paramount' in colonial administration – after this principle was endorsed by the League of Nations in 1919 as the central responsibility of all colonial and mandate powers.[116] However, as George Abbott has argued, paramountcy was negated in the drafting of the act itself, which

115 Lentz, *Ethnicity*, 320.
116 George Abbott, 'A Re-Examination of the 1929 Colonial Development Act', *Economic History Review* 24, no. 1 (1971): 69.

formulated colonial governance in terms of a dual policy (or dual mandate). A requirement to put African needs first was given equal weight with 'a duty to humanity to develop the vast economic resources of a great continent'.[117] As Abbott argues, 'by extending the principle of trusteeship to include the whole of humanity, the dual policy put paid to the doctrine of native paramountcy. More than that, it effectively re-established the *status quo ante*, since it did not envisage any change in either the nature or the form of colonial assistance'.[118] The 1929 Act was more concretely formulated to serve domestic needs, having been passed 'for the purpose of aiding and developing agriculture and industry in the colony or territory and thereby promoting commerce with or industry in the United Kingdom'.[119] Sidney Webb, Secretary of State for the Colonies told the British parliament that 'The principal motive for the introduction of this measure is connected with the lamentable condition of employment in this country, and this is an attempt to stimulate the British export trade'.[120] In his analysis of actual spending under the act, the economist Elmus Wicker found that during the 11 years that the 1929 Colonial Development Act was in force, less than two-thirds of the funds allocated for development were actually spent.[121] Expenditures to promote healthcare were only permitted if the spending had 'the effect of providing immediate and substantial orders for British goods and materials', and colonial officials complained that the act explicitly prevented them from considering projects 'for which there has been pressing need'.[122] Perhaps as a result, the expansion of healthcare in the Northern Territories does not appear to have been aided by any funding allocations made under

117 The British Africa Commission's report, quoted in ibid., 69.
118 Ibid., 70.
119 Colonial Development Act 1929, Section 1, quoted in ibid., 71.
120 Webb, quoted in Wicker, 'Colonial Development', 174.
121 Ibid., 175.
122 The Colonial Advisory Committee, quoted in ibid., 178.

the act.[123] However, as I discuss below, the developmental discourse surrounding the act did offer new rhetorical strategies to northern officials, as they advocated for improved healthcare in the region.

Beyond the development acts, in the 1930s there were several other factors contributing to a developmental or internationalist shift in Gold Coast health provision. The Gold Coast's accession to the 1930 Convention on Forced Labour (in 1935) meant that less coercive methods had to be found for implementing village sanitation work, and the colony's quarantine laws were aligned with the 1926 International Sanitary Convention.[124] The Gold Coast was increasingly represented at international health conferences, and the public health priorities of the League of Nations began to have an influence on the Medical Department's attention to specific health problems in the colony, notably those related to nutrition.[125] In the south there were significant advances in maternal and child health by the 1920s, which persisted to some extent when responsibility for these areas was devolved to the British Red Cross Society in 1932. The Red Cross took over the south's existing network of maternal welfare centres, and it began an extensive programme of health education in southern schools and adult training centres.[126] The Medical Department recorded that 'there has been an almost phenomenal development in welfare services in the Gold Coast, not only as the result of medical officers attached to welfare centres but also because of the work of voluntary helpers attached to the League for Maternal and Child Welfare, a section of

123 For a discussion of overall Gold Coast spending policy during this period see Peter C. Sederberg, 'The Gold Coast under Colonial Rule: An Expenditure Analysis', *African Studies Review* 14, no. 2 (1971): 179–204.

124 1933-1934 MDAR, 7; 1935-1936 MDAR, 4.

125 See, for example, CSO/11/1/392 (1935) Conference of medical officers at LSHTM, PRAAD Accra; CSO/11/1/422 (1937-1938) 3rd International Congress on Tropical Medicine & Malaria, PRAAD Accra; CSO/11/14/166 (1932-1939) Congress of the Royal Sanitary Institute, PRAAD Accra; CSO/11/14/248 (1936) South African health congress at Cape Town, PRAAD Accra; And see Destombes, 'Long-Term Patterns of Seasonal Hunger', 44.

126 CSO/11/1/291 (1934) British Red Cross Society, Annual Reports, PRAAD Accra; 1932-1933 MDAR, 34; 1934-1935 MDAR, 20–28; 1935-1936 MDAR, 24–31.

the Gold Coast Branch of the British Red Cross Society'.[127] This marked another point of divergence for northern health. Despite its lasting and extensive involvement in southern health care and education, neither the Red Cross nor other charities conducted any health work in the north until the very end of colonial rule, when the British Empire Society for the Blind conducted a West African blindness survey and selected northern Ghana as its central exemplar for international fundraising efforts.

Comparing healthcare in the north and south

In the southern Gold Coast, there was a new emphasis on expanding health education from the 1930s onwards, and a turn away from measures that were considered coercive. 'The aim of the Health branch is to teach the causes of ill-health and the means of disease prevention rather than to rely upon coercion', reported the Medical Department in 1934.[128] By 1932, monthly 'Health Days' or annual 'Health Weeks' were being held in larger settlements in the Colony and Ashanti, intended to teach techniques for identifying and preventing common diseases, and for domestic hygiene.[129] Alongside continued investment in fixed health facilities, there was an increase in broader preventative health work, including a scheme to distribute quinine tablets via post offices in the south from 1935, which saw an immediate and extensive uptake.[130] The government's smallpox vaccination programme steadily increased in scale; a free yaws treatment programme was offered at fixed medical facilities; and in 1936 the government reported that the Gold Coast had reached an 'epoch' in water supply improvements to major settlements in the south, observing that 'the benefit to the public health in these centres, and in villages on the pipe lines ... is hard to

127 1933-1934 MDAR, 4.
128 1934-1935 MDAR, 25.
129 1932-1933 MDAR, 34.
130 1934-1935 MDAR, 13; 1937-1938 MDAR, 24.

exaggerate'.[131] By the mid-1930s the Gold Coast was spending more than 10 percent of its total budget on health services, the highest proportion in its history thus far.[132] In those districts that were able to maintain a registry, the average annual birth rate more than doubled between 1913 and 1933, while the average death rate fell.[133] From 1944, before the end of the Second World War, Gold Coast medical facilities were treating more than 500,000 patients a year, roughly one eighth of the colony's total population.[134]

These developments indicate the increased capacity and broadening scope of government healthcare in the Colony and Ashanti over the 1930s. Although the Northern Territories were often aggregated into these figures, the region's experience of healthcare provision was very different, as I discuss below. In addition to the shift towards a more developmental health policy, Gold Coast medical services of the 1930s were also shaped by the successive introduction of new medical technologies, notably the sulphonamide class of anti-bacterial drugs, which allowed a number of the region's most serious endemic and epidemic diseases to be reliably cured for the first time. As Donald Doonan has argued, in many parts of the world the availability of new drug cures led to a shift in focus away from broader environmental health.[135] Gold Coast health services – particularly in the north and other less-urbanised areas – were increasingly developed on what local medical officers called the 'campaign principal': the idea that a curative mass treatment campaign was more health- and cost-effective

131 1933-1934 MDAR, 23; 1932-1933 MDAR, 21; 1936-1937 MDAR, 28; 1942 MDAR, 3.
132 1938-1939 MDAR, 8.
133 1933-1934 MDAR, 4.
134 1944 MDAR, 5–7.
135 Donald Doonan, 'Temperate Medicine and Settler Capitalism: On the Reception of Western Medical Ideas', in *Disease, Medicine, and Empire*, ed. Roy MacLeod and Milton Lewis (London: Routledge, 1988), ch.6.

than the gradual improvement of sanitation, health services and fixed medical facilities.[136]

In tandem with the introduction of new drugs, the 1930s were also a period in which market forces came to bear more extensively on the health of African peoples. An increasing number of patent medicines from Europe and Asia came on sale in local markets, in the face of resistance from British medical officers and from the colonial administration more broadly, which respectively viewed these medicines as ineffective or as competition for British drug manufacturers.[137] Some medical technologies passed into use beyond the state's network of approved physicians and dispensers: laws were passed to control the use of injections, and to make the unlicensed distribution and possession of sulpha drugs illegal, particularly as demand in Europe increased over the late 1930s. The laws limited the self-treatment options available to rural northern communities during successive meningitis epidemics from 1939 to 1949, and led to the emergence of a thriving black market for imported pharmaceuticals.[138]

As in the 1920s, the north continued to face acute difficulties in terms of the general provision of health services relative to local needs, and from endemic and epidemic disease. The most significant epidemic diseases were sleeping sickness (from the early 1930s to 1950), meningitis (from 1939 to 1949), and bovine rinderpest. As I discuss in Chapter 4, the campaigns against sleeping sickness and meningitis would be the north's most intensive episodes of human-focused medical activity during the

136 It was also considered that mass cure campaigns brought additional political benefits, by generating support for the colonial administration. See 1933-1934 MDAR, 4, 39; 1945 MDAR, 8.

137 See, for example, CSO/11/1/336 (1933) Sale of Hoffman La Roche products in the Gold Coast, PRAAD Accra; CSO/11/1/433 (1938) Medical products of India, Prohibition of Importation into the Gold Coast, PRAAD Accra; CSO/11/18/14 (1940) Drugs of British manufacture, patronage of colonial medical depts, PRAAD Accra.

138 See, for example, CSO/11/3/24 (1941-1946) Tablets M&B 693 – Loss of, PRAAD Accra; CSO/11/13/16 (1936-1939) Illicit traffic in drugs – control of, PRAAD Accra; CSO/11/13/30 (1943) Drugs in the sulphona group – control of sale of, PRAAD Accra; 1942 MDAR, 2; 1938-1939 MDAR, 4; Patterson, *Health in Colonial Ghana*, 28.

colonial era. Rinderpest and bovine pleuropneumonia, on the other hand, were effectively brought under control in the region by the late 1930s. The north's first medical laboratory and vaccine production facilities were established by 1933 at Pong-Tamale, in an effort to limit cattle diseases that had killed local herds and also reduced the supply of livestock to the coast.[139] An intensive rinderpest control programme continued in the Northern Territories throughout the 1930s, using vaccine made in the region, and the north hosted its first health conference at Pong-Tamale in 1936, when Chief Veterinary Officers from West Africa's British and French colonies met to agree their respective responsibilities for vaccinating cattle bound for Accra.[140] The programme was hailed as a success – here again, the requirements of the southern economy had at least partially underpinned the allocation of resources to a particular aspect of northern health work.[141] It is interesting to consider the effects of the rinderpest campaign, as one of the most extensive early regional health programmes, on the subsequent uptake of medical services in the north. Medical officers observed among some cattle-owning communities, forced rinderpest vaccination gave rise to an enduring 'suspicion and mistrust', as the locally produced vaccine killed around 2 percent of innoculated cattle.[142]

Rinderpest was largely brought under control in the north during the 1930s. But although the vaccination campaign had partly been intended to bolster the region's food security, inadequate nutrition remained a central problem across the decade. Regular complaints from local officials about famine conditions in the region, and the influence of the Health Section of the League of Nations, led to a major nutritional

139 1933-1934 NTAR, 61; And see also ADM/56/1/208 (1915-1929) Rinderpest cattle disease, correspondence, PRAAD Accra; ADM/56/1/231 (1918-1932) Cattle disease, PRAAD Accra; CSO/11/14/165 (1932) Village of Tamale near European headquarters at Pong-Tamale – removal of to a new site, PRAAD Accra.
140 1936-1937 NTAR, 107.
141 1937-1938 NTAR, 44.
142 1934-1935 NTAR, 117; 1937-1938 NTAR, 44.

survey of the Northern Territories in 1940, conducted by Dr F.M. Purcell.[143] As research by Jérôme Destombes has shown, Purcell's report revealed widespread starvation and malnutrition in the north, with conditions resembling 'the poorer areas of India'.[144] Its publication was suppressed by the government at Accra, and details only emerged after Purcell himself leaked them to the West African press: officials in Accra had told him that 'nobody must be allowed to starve in the Empire'.[145] Purcell's survey found that low food security for northern peoples was determined by their peripheral status and lack of purchasing power within the Gold Coast economy, arguing that 'in the north, nowadays food is usually available, but very many can ill afford to buy it'.[146]

Beyond sleeping sickness and meningitis, inadequate nutrition and clean water constituted the north's central public health problems during the 1930s and into the Second World War, and became a central focus of advocacy by local officials and the Gold Coast Medical Department.[147] The pressure on existing northern health facilities increased rapidly over the decade. By 1934, Tamale hospital was treating more than 21,000 patients a year – almost a tenth of all people treated in the Gold Coast in 1934, and more than the main African hospitals in Kumasi or Accra – and it remained one of the colony's busiest hospitals.[148] From the early 1930s the north received a gradually increasing allocation of government funds towards general health provision, apart from the large sums earmarked by Accra for sleeping sickness and rinderpest control. The government's quinine tablet scheme was extended in to the north in 1936, although tablets had to be priced at one-sixth of the cost that the state

143 1934-1935 MDAR, 7; 1936-1937 NTAR, 86; 1941 MDAR, 2.
144 Quote from article in *West Africa* (June, 1946) in Destombes, 'Long-Term Patterns of Seasonal Hunger', 27.
145 Purcell, quoted in ibid., 49.
146 Purcell, quoted in ibid., 27.
147 See Chapter 6
148 1934-1935 MDAR, 32; and see 1938-1939 MDAR, 51.

sold them for in the south, an indication of relative northern poverty.[149] A large-scale yaws treatment campaign was also commenced in the north-east soon after the outbreak of the Second World War, with its own network of treatment camps and roving treatment units.[150]

Although there was some expansion in government health services, the period from 1929 to 1939 saw the persistence of several north-south divisions discussed previously. Official reports continued to inflate the apparent extent of northern health provision by listing medical facilities that did not exist, or by claiming that southern sanitary initiatives had also been applied in the north. In 1935, for example, the Medical Department suggested that the occurrence of epidemic meningitis (a disease almost exclusively of the north) had been reduced through a programme aimed at encouraging people to install louvred windows in their houses, a measure which had certainly not been taken up in the north by that time.[151] From 1929 to 1934, the annual reports claimed that there were five government dispensaries offering basic treatments and medicines to rural communities in the north, but two of the claimed facilities were temporary mobile dispensaries which had broken down and become inoperable.[152] In some years during the 1930s there were no recommendations made for sanitary work in the Northern Territories, at a time when other regions listed numerous major projects, and funds that were allocated (on paper) to improved drinking water provision were never made available for local spending.[153]

The north was also still seen as a zone of disease, which posed a threat to the south even as it supplied essential labour. Successive reports noted the almost universally poor health of labour migrants from the north, who were found to

149 1936-1937 MDAR, 5.
150 1944 MDAR, 2.
151 1935-1936 MDAR, 18.
152 1928 MDAR, 42–43; 1931-1932 MDAR, 111; 85; 1932-1933 MDAR, 5.
153 See, for example, 1934-1935 MDAR, 26; 1937-1938 MDAR, 37.

'generally arrive in an undernourished or diseased condition'.[154] The Accra government continued to devote substantial resources to maintaining a sanitary curtain that had been raised between the north and Ashanti: in 1936, nearly 40,000 'half-starved creatures' were examined and 'disinfested' on the Great North Road, which linked the Northern Territories to the south's producing regions.[155] The development of the motor transport network, which improved the flow of labour but also increased the threat from northern disease, was a source of constant medical concern in Accra, although it was perhaps an even more effective conduit for southern diseases to the north.[156] The incidence of tuberculosis in the Northern Territories continued to rise as migrant workers returned from the south and disseminated the disease into resident northern communities, and syphilis – now known by northerners as the 'Kumasi Sickness' – became increasingly prevalent north of Ashanti.[157]

Advocacy and Native Authority Healthcare

Against these continued difficulties, however, the north of the 1930s also witnessed one of the most significant expansions in the provision of local health services anywhere in the Gold Coast. This was the creation of the Native Authority health system, which followed the region's turn to indirect rule – it was developed in collaboration with northern health officials, who became increasingly direct and explicit in their criticism of Accra's neglect of the region. The pre-depression advocacy of the 1920s (on the part of individual British officials in the north) re-emerged with new vigour in the 1930s, and criticism of the Accra government was informed by the

154 1938-1939 MDAR, 4.
155 1937-1938 MDAR, 29.
156 See, for example, 1935-1936 MDAR, 5; 1937-1938 MDAR, 29.
157 1937-1938 NTAR, 75–77.

'developmental' shift which emerged from inter-war internationalism and the 1929 Colonial Development Act. In 1934, the north's annual report observed:

> Now that the policy of working for the moral and material advancement of the natives of the country under our trusteeship has been substituted for that of putting first and foremost the benefit of European trade and the production of raw materials for export, a certain amount of progress, little though it may be, can be recorded.[158]

Indirect rule and Native Authority in colonial Africa have been the focus of academic and popular criticism, often concerned with the illegitimacy and venality of the institutions created when Britain transferred a measure of power to its preferred African leaders, based on their assumed connections to pre-colonial authority. Mahmood Mamdani's well-known study proposes that indirect rule created a set of 'decentralised despotisms' with little popular legitimacy, which maintained the impositions of colonial rule whilst extending new modes of coercion over African peoples, particularly through the entrenchment of patrimonialism.[159] Terence Ranger argued that some indirect rule traditions were largely 'invented' as part of the hybridizing encounter between colonial-era Africans and Europeans, with leaders chosen in light of a 'customary' authority constructed by the British.[160] Mamdani's 'decentralised despotisms' and Ranger's 'invented traditions' were both represented in the Northern Territories' transition to indirect rule, although the extent of both invention and despotism varied considerably. But there are other perspectives from which to assess the transition to Native Authority, evident in the sources for the colonial north. Here the Native Authorities emerge as relatively effective antagonists in a battle for

158 1934-1935 NTAR, 108.

159 Mahmood Mamdani, *Citizen and Subject: Contemporary Africa and the Legacy of Late Colonialism* (Princeton, N.J.: Princeton University Press, 1996), ch.2.

160 Terence Ranger, 'The Invention of Tradition in Colonial Africa', in *The Invention of Tradition*, ed. Eric J. Hobsbawm and Terence Ranger (Cambridge: Cambridge University Press, 1983), 261; Terence Ranger, 'The Invention of Tradition Revisited', in *Legitimacy and the State in Twentieth-Century Africa: Essays in Honour of A.H.M. Kirk-Greene*, ed. T. O. Ranger, and Olufemi Vaughan (Basingstoke: Macmillan, in association with St. Antony's College, Oxford, 1993), 62.

improved local health services, prepared to allocate expenditures to areas of healthcare that had been neglected under centralised British administration.

The institution of indirect rule in the Northern Territories followed a different course from the southern Gold Coast, where prolonged disputes over traditional rights and jurisprudence impeded British plans to devolve local administration.[161] In the north Native Authorities were only created from 1930, and the local British administration maintained control both over who qualified as a 'customary' leader, and the degree to which ongoing rule could be based on tradition – it was argued that 'the principle differs fundamentally from that on which the Native Administration Ordinance of the Colony appears to rest'.[162] Having observed the south's earlier transition, the Northern Territories government argued that its revised approach to indirect rule was necessary for Native Authority councils 'to perform their duties with a proper sense of service to those over whom they are placed in charge'.[163] The new authorities, perhaps shaped by this maintenance of control over leaders and their legal capabilities, and motivated by the low penetration of existing government institutions, rapidly expanded to take on roles that in the south were fulfilled by various colonial departments, both in health and education.[164] Crucially, the Native Authority bureaucracies were not dependent on the Accra government's largesse. They had their own treasuries, were able to raise and spend revenues locally, and were staffed by northerners, who appear to have been more responsive to problems with health and disease affecting their communities.

Health services immediately became a priority of the region's new Native Authorities, following their establishment from 1930 to 1934. Their central

161 See R. S. Gocking, 'Indirect Rule in the Gold Coast: Competition for Office and the Invention of Tradition', *Canadian Journal of African Studies* 28, no. 3 (1994): 421; Brukum, 'Northern Territories under British Rule', 280–91.

162 1937-1938 NTAR, 6–8.

163 Ibid.

164 For a discussion of northern Native Authorities and education, see Thomas, 'Education in Northern Ghana'.

achievement was the rapid creation of a network of rural dispensaries and smaller treatment centres, providing basic drugs and outpatient treatments for common diseases, and acting as surveillance posts for the spread of epidemic sickness. Ten Native Authority (NA) dispensaries were built between 1934 and 1937, and local British officials argued that the developments 'provided an excellent illustration of the value of local government. The Native Administrations in the Protectorate, having funds at their disposal, completed the buildings as rapidly as the Medical Department was able to supply tin'.[165] In that year, the north's NA dispensary network treated more than 26,000 people, even though most dispensaries had only been open for a matter of months.[166] At an average cost of £300 to build, the dispensaries represented a significant investment in local health by contributing communities, with more than £3,600 spent on structures alone over the first three years of NA operation.[167] As a comparison, in 1936 the central government's total allocation for regular medical and sanitary expenditures for the north was £1,640, although it voted a vastly greater sum (£7,653) for the campaign against sleeping sickness in the region, in part because the disease threatened the south and its labour supply.[168] The number of patients treated at the north's government hospitals began to decline as NA dispensaries were built and people were able to obtain healthcare closer to their homes. At Tamale Hospital, for example, the number of new outpatients fell from 18,411 in 1935 to 12,253 in 1937.[169] By 1938 there were 16 NA dispensaries and several additional treatment centres operating in the Northern Territories, while there were only nine comparable NA facilities across the rest of the Gold Coast.[170]

165 1935-1936 MDAR, 35; 1936-1937 NTAR, 86; 1937-1938 NTAR, 69.
166 1937-1938 NTAR, 70.
167 Ibid., 69.
168 1936-1937 NTAR, 16, 86.
169 1937-1938 MDAR, 42.
170 1940 MDAR, 8.

The construction of these rural facilities was accompanied by a rapid expansion in the local training of NA medical personnel. From 1934, the north's native authorities contributed to a scheme for training 'village overseers', in charge of rural sanitation, by sending them to an existing school at Kumasi.[171] In 1937, a larger School of Sanitation was built at Tamale using NA funds, 'to train literate boys, recruited and paid by the Native Administrations, to supervise the work of the illiterate village overseers'.[172] The Native Authorities also funded a scheme for training NA dressers in Tamale – the training included administering injections against yaws, treatments for round worm and scabies, and basic wound dressings.[173] These dressers returned to their respective NA districts and began a programme of travelling health provision, with occasional inspections and supervision from British medical officers. They were hailed as an immediate success, particularly in delivering yaws injections to communities that lay beyond the reach of existing government healthcare. In 1937, for example, it was observed that a single travelling NA dresser in the Wa district had treated 1,170 people for yaws over the course of a month, with 75 percent completing the required course of four 'sobita' (sodium bismuth tartrate) injections. The government hospital in Wa had only treated 455 people for the disease over the same period, and only two had completed a full course. 'So satisfied is the [medical director] with the work and potential value of the dressers,' reported the north's Chief Commissioner, 'that he now proposes to enlarge their course of training so as to include vaccination, quinine propaganda and village sanitation'.[174]

171 1935-1936 MDAR, 35; 1936-1937 NTAR, 16.
172 1937-1938 NTAR, 77; 1940 MDAR, 16; and see NRG/8/7/9 (1949-1951), Enclosure 13 p. 28, 'Noted on a Meeting with the Director of Medical Services', Undated 1949; and Enc.15: Letter from TA Mead, Chief Commissioner Northern Territories, to Asst. Director Medical Services, Tamale, 3 October 1951.
173 1937-1938 NTAR, 69, 77; 1936-1937 NTAR, 16; 1934-1935 NTAR, 86.
174 1937-1938 NTAR, 69.

As they expanded physical medical facilities and basic health provision, the Native Authorities were also drawn into engagement with other northern health needs. Because the north had no network of post offices, which were used to distribute government quinine tablets in the south, NAs assumed responsibility for the scheme in 1936. As the price of quinine in the south steadily increased, to eight shillings per tube of 15 tablets at the outbreak of the war, the same tablets dispensed by northern Native Authorities remained on sale at the low price of one shilling per tube.[175] The NAs helped to organise 'poor relief' during the late 1930s, when the cocoa hold-up caused mass unemployment among northern labour migrants.[176] They also became a pivotal part of the northern medical department's strategy for disease control. By the mid-1930s, when there were only five British medical officers permanently stationed in the north, the bulk of the region's active health staff was employed with NA funds. This staff, which comprised a mix of sanitary and medical personnel, in addition to NA labourers without medical training, was central to control and treatment programmes against sleeping sickness, epidemic meningitis and smallpox from 1933 until the early 1950s.[177] Native Authorities provided workers and funding for the bush-clearing teams operated by the Tsetse Control Department, and administered a network of camps where those infected with sleeping sickness could receive treatment.[178] During the meningitis epidemics of 1939-1949, the NAs were similarly responsible for disease surveillance, maintaining a network of isolation camps, and for directly treating people with sulphonamide drugs. Their work in drug distribution was seen as pivotal to the success of the control campaigns, in which sulphonamides reduced the average mortality rate from 80 percent to 10 percent of people infected: the medical officer in

175 1936-1937 MDAR, 5; 1937-1938 MDAR, 5; 1941 MDAR, 3–4.
176 1937-1938 MDAR, 29.
177 1935-1936 MDAR, 79, 91; 1937-1938 NTAR, 75–77.
178 See Chapter 4

charge of the 1945 meningitis campaign reported that 'the most noteworthy feature, one whose effect was marked, was the handing over of responsibility to the Chiefs'.[179]

Officials also commended the work done by Native Authorities to improve village sanitation and drinking water supplies. 'Everywhere the villages are crying out for improved water supplies and the Native Administration is showing a commendable desire to answer appeals, even where the village concerned is far from its headquarters', observed the north's 1934 Annual Report. In that year thirty new wells were dug with NA funds, and a number of large dams were built, some supplying more than thirty villages each.[180] Officials in the north increasingly criticised the Accra government's 'belated realization' that clean water was a central requirement for improved northern health; their advocacy eventually lead to the short-lived creation of the Northern Territories Water Supply Section in 1937. These officials pointed out that by 1937, the Mamprusi and Dagomba Native Authorities had already committed £600 to privately employ a European engineer to develop proposals for clean water provision in their districts.[181] This was part of a total allocation of £9,355 made by the north's various Native Authorities that year towards expenditures on 'health' alone (including village sanitation and related training and salary costs, but excluding the dispensary system). 'The Government vote for village sanitation,' observed one northern official, 'is £664 for the whole Protectorate'.[182]

These details indicate the success of some aspects of Native Authority health provision, and the renewed criticism of Accra by local officials during the 1930s. The growing NA healthcare system was roundly praised by members of the colony's

179 CO/859/108 (1945) Cerebro-spinal meningitis, Gold Coast, TNA London, Enc. 2: Typed note, 9 August 1945; And for extensive details of NA involvement in epidemic control, see also CO/96/762 (1939) 'Outbreak of cerebro-spinal meningitis', TNA London; CO/96/798 (1949) Outbreak of Smallpox and Cerebrospinal Meningitis, TNA London.
180 1934-1935 NTAR, 96–97.
181 1936-1937 NTAR, 30–38.
182 Ibid., 59.

medical community, and the Accra medical department increasingly became an ally in advocacy for issues of northern health. The success of northern NA initiatives appears to have emboldened the region's medical and political officers, already motivated by the new discourse and idioms of colonial development, in raising criticisms that had previously been made obliquely, if at all. In his study of healthcare in Ghana as a whole, Arhinful argues that Native Authority health provision was a 'cosmetic' and ineffectual response to rural health problems.[183] But for the Northern Territories this assessment is incorrect. There, the turn to Native Authority brought a clear improvement in people's access to healthcare, as suggested in the following quotes from British officials:

> Little progress can be reported in rural sanitation during the year save in the Northern Territories, where a real advance is apparent. Here the Native Administration has made a good start on sound lines, and there is a very good prospect of a satisfactory sanitary standard being reached in the course of a few years.[184]
>
> In the last five years there has been a tremendous increase in the provision of facilities for medical treatment, improvement in village sanitation, and water supplies.[185]
>
> The fall in the [total number of recorded out-patients in the Gold Coast] is most probably due to the establishment of the village dispensary system in the north. These dispensaries, which are very popular, are no doubt dealing with a number of patients who would formerly have had to travel to a larger centre.[186]
>
> The progress made [in medical provision] in the Northern Territories ... is largely due to the sound development there of Native Administrations, and affords an example worthy of emulation by the rest of the Colony.[187]
>
> The Native Administrations do take an interest in Health measures … not only in insisting that rules are enforced, but in building a Dispensary, paying for the training and subsequent services of a travelling dispenser, and organising village sanitation throughout the area.[188]

183 Arhinful, 'Health Care In Ghana', 42–45.
184 1936-1937 MDAR, 31.
185 1936-1937 NTAR, 71–73.
186 1936-1937 MDAR, 39.
187 Ibid., 40.
188 1936-1937 NTAR, 65.

> Our hope and trust must lie with the NA Dispensaries. These dispensaries will allow of the people getting regular and complete courses of treatment for disease.[189]
>
> The Northern Territories have seen the greatest advance in native administration so far recorded in the history of the Gold Coast. Between the years 1902 and 1932 there was little or no alteration in the legislation affecting the lives of the people of the Northern Territories ... This fact discloses the attitude of Government towards the people of the Protectorate. They were regarded as an amiable but backward people, useful as soldiers, policemen and labourers in the mines and cocoa farms; in short fit only to be hewers of wood and drawers of water for their brothers in the Colony and Ashanti.[190]
>
> At least eighty per centum of [northern people given medical care] would not have received treatment but for the existence of the dispensaries. They are unquestionably a great boon to the people.[191]
>
> Great progress can be reported in the Northern Territories, under the aegis of the Native Administration, in all branches of rural sanitation. This steady advance is most encouraging, and the progress already made should act as a stimulus to the rest of the Gold Coast.[192]
>
> No section of the Gold Coast's population is in more urgent need of medical attention, than are the people of the Protectorate ... On reference to the map accompanying this report it will be realised how inadequate were the medical facilities [previously provided].[193]
>
> The progress made by [The Dagomba Native Authority] has enabled them to obtain benefits which they would probably never have received, if they had waited on Government generosity.[194]

These quotes, at once critical of the Accra government and praising of the Native Authorities, indicate the success of the NA health system, and how it was seen locally as a way of overcoming southern neglect. From the available sources, it is difficult to gauge the extent to which the rapid expansion of Native Authority healthcare was the result of direction from northern officials – who now had a means to enact proposals that had been refused when funding was centralised – and to what

189 1936-1937 MDAR, 86.
190 1937-1938 NTAR, 2–3.
191 Ibid., 71.
192 1938-1939 MDAR, 36.
193 1937-1938 MDAR, 69.
194 1935-1936 NTAR, 30.

extent it emerged from the actions and planning of African communities and their chiefs in the north. Both groups appear to have played an important part; the turn to indirect rule granted a new agency to local British officials and northern communities in the provision of healthcare, which had previously been dependent on decisions taken in the south.

This did not mean that the system was without problems. It is striking to think of the broader social and economic power which was conferred on Native Authority chiefs, and their assemblies of local elites, by giving them responsibility for the treatment of disease and the provision of health facilities: how medical power (or biopower) must have bolstered the institutions of indirect rule. As I discuss in Chapter 3, this was similar to the enduring medical power conferred on missions and church groups in the independence era. During some disease outbreaks the Native Authorities were given the authority to determine who lived and died – notably during the 1945 meningitis epidemic, when northern medical officers decided that sulphonamide antibacterials (the only available cure) would be distributed by the chiefs themselves. To obtain further treatment or care at medical facilities, the families of those infected had to first apply to their Native Authority leadership, who would decide whether they received the drugs and a referral to a treatment camp.[195]

In another instance, during the 1939 meningitis epidemic, Native Authorities in the north-east imposed a quarantine cordon around the town of Bawku, preventing people from accessing their farms and traders from entering the settlement, leading to localised famine.[196] The NAs passed their own quarantine regulations during the sleeping sickness epidemic of the 1930s, allowing them to imprison people for three

195 See CO/859/108 (1945), Enc. 3: Report on the late stages of an epidemic of cerebrospinal meningitis, NTs, March to June 1945; GB/0809/v54.6 (1957), Waddy 'Cerebro-spinal Meningitis', 11–12; 1945 MDAR, 6.
196 1937-1938 NTAR, 75–77.

months and to forcibly administer a course of tryparsamide injections, which carried a high risk of blindness as a side-effect.[197] Some Native Authority courts made enthusiastic use of sanitary fines as a means of raising revenues, replicating the approach of earlier Northern Territories administrations, and there were occasional indications of the nepotism and patrimonialism identified by Mamdani.[198] Nevertheless, the Native Authorities of the 1930s oversaw the creation of what was, at that time, almost the entire rural health infrastructure of the north.

In 1934, the Northern Territories Chief Commissioner wrote that 'it is to be hoped that the endeavours of the people to help themselves will be rewarded by the grant of generous assistance, either by the central government or from the Colonial Development Fund'.[199] But perhaps because of the very success of Native Authority healthcare initiatives, no additional health funds were granted to the region during the 1930s. Instead the Accra government's budgetary allocations for the north were directed almost entirely at epidemic sleeping sickness. The NA healthcare system persisted for some years after the Second World War, but it was undermined in the 1950s as the new African-led government in Accra sought to centralise the control of medical training. Before this, by 1939 there were already attempts to restrict northern Native Authority control of health services, which were considered to have expanded beyond the capacity for supervision by the central government. This met with resistance from the northern officials who had advocated for the health system's expansion. With what seems to be a note of irony, the NTs 1939 annual report concluded: 'Perhaps it is a matter for congratulation, that we have prevented them from

197 Ibid., 9.
198 1934-1935 NTAR, 86; and see, for example, 1938-1939 NTAR, 5–20; 1936-1937 NTAR, 23.
199 1934-1935 NTAR, 96–97.

running the risk of having a bad fall by trying to walk, before they can creep properly'.[200]

The Second World War and northern health

Although the Native Authority health system declined from the late 1940s, the development of northern healthcare was more immediately restricted by the Second World War. As conflict in Europe became imminent, some war-related developments brought ancillary health benefits. The Tamale Broadcast Station was opened in 1937, to convince its listeners (those that had access to radio news through Native Authorities or in urban centres) 'that wars and the preparations for war are not the only interest of the inhabitants of European countries'.[201] Wendell Holbrook has shown that the Gold Coast's war-time broadcasting service was increasingly used to disseminate information about general health and disease control measures, including for the north's meningitis epidemics, and that it trained a core of African operators who would be instrumental in post-independence health information campaigns.[202] Military recruiting also helped to draw attention to ongoing health problems in the north, particular the widespread famine that would be recognised in Purcell's censored report of 1940.[203] As David Killingray has observed, although the north was a focus of British recruiting (with many soldiers send to fight in the Burma campaign), its men had the Gold Coast's highest rejection rates on grounds of poor health, and recruiting had to be halted in the far north after some areas were considered 'depleted'.[204] Elderly members of Dagomba communities near Tamale recalled that the meningitis epidemics of 1939-1945 were

200 1938-1939 NTAR, 57.
201 1937-1938 NTAR, 50.
202 GB/0809/v54.6 (1957), Waddy 'Cerebro-spinal Meningitis', 9–11; and Holbrook, 'British Propaganda', 347–61.
203 See, for example, 1941 MDAR, 2–4.
204 1943 MDAR, 5; David Killingray, 'Military and Labour Recruitment in the Gold Coast During the Second World War', *Journal of African History* 23, no. 1 (1982): 83–95.

enlisted as part of British recruitment propaganda – they were told that meningitis had been carried to the region in the 'smoke' from bombs dropped by Adolf Hitler.[205]

As the war intensified, spending on healthcare in the Gold Coast was cut back. The annual medical reports were reduced to six pages in length over the war years, from an average of more than 60 pages a year over the preceding decade, and significant staffing losses were recorded across all areas of the health service – the government passed a law allowing 'unqualified persons' to dispense drugs and provide treatments.[206] In 1943, quinine became unavailable in the colony as it was requisitioned for troops in Asia, with a rapid increase in people requiring treatment for malaria, and Defence Regulations subsequently restricted the possession and sale of sulphonamide drugs.[207] The ambitious plans of the new Northern Territories Water Supply Section, seen as the solution to a range of health problems, were shelved at the outbreak of the war, and various rural sanitation projects and dispensaries were closed.[208] 'Critical' staff shortages limited the ability of northern medical services to supervise control campaigns during the outbreaks of smallpox and meningitis that took place from 1939-1949, and many quarantine measures were imposed independently by the Native Authorities or military units stationed in the region.[209] By the time of the 1945 meningitis epidemic, control of the north's treatment camps had devolved to 'anyone available': even 'a schoolboy on holiday' might be called on to manage an entire camp.[210] The war brought down a curtain on the expansion of rural health services that

205 Group.18: Dagomba Community 3, Pong-Tamale, Interview, Northern Region, 11 August 2015; Group.16: Dagomba Community 1, Tamale Area, Interview, Northern Region, 10 August 2015.
206 1939 MDAR, 2; 1940 MDAR, 1–2; 1941 MDAR, 2.
207 1943 MDAR, 1–4; 1942 MDAR, 2; 1945 MDAR, 5.
208 See Chapter 6 on Guinea Worm, and 1941 MDAR, 6; 1942 MDAR, 1–3; 1943 MDAR, 6.
209 See CO/96/762 (1939), Encs.6-15: Undated handwritten notes April-May 1939; and Enc.16: 'Cerebrospinal Meningitis', memorandum from Deputy Director of Health Services, 17 July 1939; GB/0809/v54.6 (1957), Waddy 'Cerebro-spinal Meningitis', 10–11; And see also CO/859/108 (1945); 1945 MDAR, 1, 4–6.
210 GB/0809/v54.6 (1957), Waddy 'Cerebro-spinal Meningitis', 11.

had taken place under Native Authorities during the 1930s, and the general neglect of northern facilities and infrastructure during the war, particularly the region's road network, created problems for the slow restoration of health services which took place after 1945.

However, after the war there was also a sudden increase in the funding and attention given to the north by Accra, principally for agricultural schemes aimed at boosting nutrition and export production, such as the large scale Gonja Development Project, discussed by Jeff Grischow.[211] These developments represented a step-change in the north's colonial-era fortunes, but they were more concretely a part of the independence transition itself. Post-war spending on northern healthcare was made with an eye on rising nationalism across the Gold Coast, in the years following the Accra riots of 1948. For this reason the period after the Second World War is discussed in Chapter 3, which examines key developments across the independence transition, from 1945 to the overthrow of Kwame Nkrumah in 1966.

Conclusion

Several persistent themes characterised the development of northern healthcare from 1902 to 1945, over most years of British rule in the Northern Territories. First, there was the continued divergence of the north and south in terms of the net provision of health services to African peoples, whether at fixed facilities or through campaigns of treatment and health education. Across this first 43-year period, two wars and two depressions slowed the expansion of health services in both regions. But the north experienced more extensive relative cuts to its fixed facilities and staffing, and services remained depressed for longer periods. When economic problems

211 Grischow, 'Late Colonial Development'.

threatened the Gold Coast, in other words, their health impacts were often pushed north to the periphery, onto a population with less economic power and hence less political leverage in the colonial system – a replication of the way these global problems were displaced from Britain to its colonial margins. The north was integrated into the Gold Coast economy as a supplier of migrant labour, which further undermined the region's agricultural economy, and perhaps also reduced the constituency of young, resident men who might have pressed the government for improved local health services. Because the north generated no revenues from export production, the government at Accra had little economic motive to seek to improve conditions there, as long as sufficient northern labour was available in the south. The Northern Territories was seen as a region 'which imposes a burden upon the Gold Coast for which it makes no adequate return'.[212] Fears about the spread of northern disease rose as the Territories became increasingly important to the southern economy, and the central government spent money to improve the south's epidemiological defences against contamination from the region, with networks of disinfesting camps and inspection points on the main linking roads. Northerners in the south became associated with disease, which they often contracted under conditions of poverty in the south itself.

Against this grim, economically deterministic picture, however, the north also saw rising advocacy for the improvement of healthcare on moral or humanitarian grounds, on the part of local British officials who were aware of the poor state of health in northern communities. The voices of these communities and their leaders are sadly almost entirely absent from the available sources for this period. In the 1930s, when central government funding for healthcare remained low after the Great Depression, local British officials and the newly created Native Authorities, using money raised

212 1918 NTAR, 2–3.

locally, found a way to rapidly expand the north's rural health provision. The NA health system demonstrated the essential role of local initiative and innovation in the face of southern neglect, and its success led to calls for the system to be emulated across the colony. This pattern would be repeated several times over the next 65 years: a successful locally-generated northern initiative, born of necessity, would become a blueprint for health services across Ghana. In 1938, a political officer posted in the north observed that innovation of this kind was essential for the region, because of 'an isolation which is inevitable, so long as the Protectorate is separated from the seat of Government by so valuable a crop as cocoa'.[213]

213 1937-1938 NTAR, 38.

CHAPTER 2

Health in the hinterland: sleeping sickness and tsetse control
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From the broader discussion of colonial-era health institutions in northern Ghana, this chapter turns to closer examination of a single prominent disease of the colonial period, sleeping sickness, and its related control campaigns. Beyond its immediate conclusions about the nature of colonial sleeping sickness control in the north, the chapter is also linked with Chapter 4, on onchocerciasis. The two diseases are linked by the nature of the campaigns against them: the colonial campaign against sleeping sickness inadvertently exposed people to onchocerciasis, contributing to an emergent public health crisis at the moment of independence. Across the century, the control programmes against sleeping sickness and onchocerciasis illuminate the changing relationship of the peripheral north to the centres of medical authority in Ghana and beyond: the colonial and postcolonial health administrations in Accra, transnational organisations like the WHO, and charitable organisations which at times had an influence on northern Ghana's healthcare system.

The sleeping sickness and anti-tsetse fly campaign was the most extensive and sustained disease-control initiative in the north during the colonial period, operating between 1933 and 1957, while successive onchocerciasis control campaigns operated from the early 1950s until the end of the period under study – including the transnational Onchocerciasis Control Programme (a joint collaboration between independent Ghana, the WHO and the World Bank), which ran from 1974 to 2002. The recognition of sleeping sickness as a public health emergency in the north, and the resultant anti-tsetse campaign, were both shaped by the north's peripheral position in

the Gold Coast and broader imperial economy. The region remained on the political margins after independence, but the onchocerciasis campaign situated the north very centrally in another system of transnational medicine and donor fund-raising – sometimes construed as a neocolonial perpetuation of colonial power relationships, but which differed significantly from colonial-era interventions in the region's health.[1] Together the two diseases and campaigns indicate the shift in healthcare priorities that took place across the transition to independence, while revealing continuities in the way that northern Ghana and its peoples were perceived both nationally and internationally. The two campaigns also show the profound effects that disease control work could have on the physical and social environments of the region, particularly on riverine ecology and patterns of settlement.

The social history of medical work in northern Ghana is another focus of the overall thesis. For the colonial period, work on sleeping sickness and onchocerciasis shows how gaps in medical knowledge gave rise to serious public health problems in the north – these lacunae were sustained by the conflicting imperatives of colonial administration, by the economic marginality of the north, and by research and treatment priorities that were sometimes determined by metropolitan rather than local concerns. A focus on the colonial period (with its relatively accessible archive) has meant that historians of Ghana have not regularly explored the connections between disease events before and after independence. These two linked chapters chart connections between the colonial trypanosomiasis campaign and the high incidence of onchocerciasis at independence, a public health catastrophe that only became the focus of systematic control efforts in 1974.

1 See, for example, Thomas Akwasi Aidoo, 'Rural Health under Colonialism and Neocolonialism: A Survey of the Ghanaian Experience', *International Journal of Health Services* 12, no. 4 (1 October 1982): 637–57; Mario Alejandro Valdez, 'Neo-Colonial Epidemiology: Public Health Practice and the Right to Health in Guatemala' (Thesis, University of Washington, 2013), ch.1.

There were two approaches to sleeping sickness control in the north. A drug treatment campaign, based around a network of isolation camps, was accompanied by a more enduring and expansive anti-tsetse campaign against the disease's insect vector, involving the systematic clearance of riverine forests. Control work began in the mid-1930s, following the belated official recognition of a sleeping sickness epidemic in the region. Northern peripherality contributed to a failure to recognise the significance of sleeping sickness in the north at an earlier stage, after local medical officers first raised concerns in the 1920s, and shaped the subsequent development of each control initiative. The Accra government allocated increasing resources to local control work as epidemic sleeping sickness reduced the southwards labour supply, and directed the bulk of its funding towards a plan that promised to increase agricultural production and boost revenues from the region, by resettling northern communities into valleys that had apparently been 'freed' from disease.

Sleeping sickness

Although it may seem illogical, in this thesis I have chosen to use the common name for one disease, sleeping sickness, while keeping the scientific name for the other, onchocerciasis. This is because onchocerciasis is known widely by northern Ghanaians as 'oncho', a result of the 1974-2002 WHO campaign.[2] Its common name, 'river blindness' was coined by a charitable organisation working in the north in the 1950s, to facilitate fundraising and advocacy work in Britain. The term 'sleeping sickness' presents its own problems: in community interviews held long after the disease had ceased to pose a significant problem in the north, people sometimes

2 See Chapter 5

thought we were asking about general laziness. But the term is still used in northern Ghana, although each local language has its own name for disease.

African sleeping sickness (trypanosomiasis) is an infectious parasitic illness which attacks both humans and animals, causing either human sleeping sickness or the disease called 'nagana' in both wild and domesticated animals. In both cases the causative agents are microscopic protozoan organisms called trypanosomes, spread by the bite of blood-sucking flies in the genus *Glossina*, often known as 'tsetse' flies. There are several species of tsetse fly, and several species of trypanosome. The two species that cause disease in humans are *Trypanosoma brucei rhodesiense*, found in east and southern Africa, which causes an acute form of the disease that kills within weeks, and *Trypanosoma brucei gambiense*, which causes the chronic form that affects people in West Africa, taking an average of three years between infection and death without treatment.[3] The trypanosomes and the fly are distributed in an east-west band across sub-Saharan Africa, from the 14th parallel (southern Niger), to the 20th parallel (northern Namibia).[4]

The common English term for the animal disease, Nagana, is taken from the Zulu, *Ngana*, meaning 'weak' or 'useless', indicating the symptoms it produced in livestock. Infected animals become progressively anaemic and lethargic, followed by death in some species, and cannot be used for ploughing or transport.[5] In humans, the trypanosome enters the circulatory system after infection from a tsetse bite, and the haemolymphatic stage of the disease begins, causing fever, headache, severe itching and visible swelling of the lymph glands. At the second, neurological stage of the disease, the organism crosses the blood-brain barrier and begins to destroy the nervous

3 Reto Brun et al., 'Human African Trypanosomiasis', *Lancet* 375, no. 9709 (9 January 2010): 148.
4 Dietmar Steverding, 'The History of African Trypanosomiasis', *Parasites & Vectors* 1 (12 February 2008): 3.
5 Pierre Fenelle, 'African Animal Trypanosomiasis', *World Animal Review* 7. (1973): 1-6, hosted at http://www.fao.org/docrep/010/ah809e/AH809E02.htm, accessed 12 July 2016.

system. The progression of symptoms varies, but often includes tremors, limb paralysis, speech disorders, excessive salivation, psychotic reactions, and periods of aggression or intense apathy and inactivity. A principal symptom of the disease is its disruption of the circadian sleep/wake rhythm, meaning that sufferers fall asleep uncontrollably at irregular intervals. Untreated trypanosomiasis invariably progresses to coma and death.[6]

Northern sleeping sickness in the early colonial period, 1900-1925

Patterson and Scott have argued that sleeping sickness did not assume epidemic proportions or present a major public health problem in the Gold Coast before the 1930s, but there are indications that the disease was more widespread in the north than has previously been recognised.[7] British medics working in the Gold Coast were by this time aware of sleeping sickness as a serious health risk: there had been epidemics in other parts of colonial Africa, and research in the early 1900s had linked the disease with the parasitic trypanosome and the tsetse fly.[8] But the Gold Coast Medical Department remained oriented towards diseases at the coast, while the duties of northern medical officers, which included managing the district prisons, meant they had little time or inclination to travel and record diseases among northern peoples. As discussed in Chapter 1, the coast-focused nature of medical surveillance was demonstrated in 1908, when a small outbreak of plague in Accra (336 cases and 228 deaths) drew in the majority of the Gold Coast's medical labour and special-measures

6 Brun et al., 'Human African Trypanosomiasis', 149.
7 Patterson, *Health in Colonial Ghana*, 44-45; Scott, *Epidemic Disease in Ghana*, 138-145.
8 Maryinez Lyons, 'Sleeping Sickness Epidemics and Public Health in the Belgian Congo', in *Imperial Medicine and Indigenous Societies*, ed. David Arnold (Oxford: Oxford University Press, 1989), ch.5; Helen Tilley, *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870-1950* (Chicago: University Of Chicago Press, 2011), ch.4; Steverding, 'African Trypanosomiasis', 3-5.

budget, in the same year as an epidemic of cerebrospinal meningitis (approximately 20,000 deaths) devastated northern communities to comparatively little interest.[9]

Although the main focus of this chapter is the northern sleeping sickness epidemic that took place after the First World War, there are many indications that the disease was on the rise before this time. In 1906, after a case was confirmed at Gambaga in the north-east, a Medical Officer reported that sleeping sickness was prevalent in the northern savanna, observing that 'the cases of sleeping sickness coming under notice are an infinitesimal proportion to the actual cases which occur'.[10] In 1908 it was recognised that sleeping sickness was widespread in parts of German Togoland, and surveillance was increased across the colony.[11] Cases were discovered in both Ashanti and the Northern Territories, with indications that infection in the north was more prevalent than the number of recorded cases suggested.[12] A British medical officer contracted the disease, one of 12 MOs stationed in the north at the time, perhaps giving a crude indication of infection rates among less-protected African communities.[13] But control measures and expenditures in this period were directed entirely at Ashanti and the Colony, and not at the north. Two fly-proof hospitals were built, in the east at Anum and along Ashanti's border with the Northern Territories at Kintampo, and in 1910 the colony voted a total of £3,572 for sleeping sickness control measures, relative to a total annual medical budget of £44,981.[14] These control budgets were allocated entirely to Ashanti and the Colony: a further indication of the early marginality of the north, even at a time when colonial administrators considered it to be

9 See Chapter 1
10 1906 MDAR, 9.
11 1908 MDAR, 5.
12 Particularly since reports from the north were limited to dying individuals who were brought for treatment at formal facilities, unlike the more extensive village surveys then underway in Ashanti.
13 1909 MDAR, 5 and Appendix III – Medical Report on the Northern Territories for 1909.
14 1910 MDAR, 15; 1911 MDAR, 6; This adjusts to approximately £3 million in 2016 pounds. See http://www.measuringworth.com/ukcompare/relativevalue.php, accessed 4 March 2016.

an area of revenue-generating potential. Early public health decisions of this kind may have entrenched the marginalisation of the region, as public health facilities were built to defend against the southwards ingress of northern disease.[15]

In 1910, the annual medical report concluded that 'the seriousness and the possibilities of Sleeping Sickness, as far as the Gold Coast is concerned, are now well recognized, and every effort is being made to cope with a situation that at first sight strikes one as being well-nigh superhuman'.[16] In 1911 the United Kingdom concluded a formal agreement with Germany, 'with a view to the more effectual combating of the disease known as sleeping sickness in the Gold Coast Colony, the Ashanti Protectorate, the Northern Territories of the Gold Coast, and in Togoland'.[17] The agreement provided for intensified investigations of the disease and improved programmes of treatment, closure of borders and trade, and restrictions on the movement of African subjects. It suggests that sleeping sickness in the early twentieth-century Gold Coast had a greater impact – or was at least perceived to be a greater threat – than has been recognised by prior scholarship.

Over the following decade, however, official interest in sleeping sickness lapsed almost completely. The Gold Coast government commissioned an extensive survey of the Ashanti region by Allan Kinghorn, later acclaimed for his research on the link between the tsetse fly and the acute East African form of trypanosomiasis. The survey concluded that the disease did not pose a threat to public health, although what it more concretely demonstrated was that sleeping sickness did not imperil the economic heartlands of Ashanti and the Colony: it made no observations about the disease in the Northern Territories. There were no investigations in the north before the

15 1911 MDAR, 6.
16 1910 MDAR, 34.
17 'Agreement between the United Kingdom and Germany with Regard to Sleeping Sickness', *The American Journal of International Law* Vol. 6, No. 1, Supplement: Official Documents (January 1912).

outbreak of the First World War, but annual reports suggested the disease's persistent presence in the region. In 1913 the Accra medical laboratory observed that most of the cases of sleeping sickness it had confirmed were among soldiers recently brought down from the north, which became the principal recruiting ground for Gold Coast troops during the war.[18] In 1914, disease control across the colony was largely suspended due to 'lack of funds and the withdrawal of troops', and when the war finished in 1918 the annual medical report argued that 'trypanosomiasis does not call for any special mention. There is no evidence that it is on the increase'.[19] The administration persisted with research into the control of trypanosomiasis among cattle, but human sleeping sickness received little attention or funding until the 1930s.

Sleeping sickness 1925-1950

By the late 1920s, however, sleeping sickness appears to have reached epidemic proportions in the Northern Territories and neighbouring French Upper Volta. This was known to both the regional administration and the Gold Coast Medical Department, even though the outbreak went officially unrecognised until 1935. In 1924, a medical officer toured the Lawra district in the north-west on the request of a district commissioner concerned about high numbers of infected people who were brought to the district station in an attempt to find medical assistance, at a time when very few people made the journey to colonial healthcare facilities. His survey covered 27 villages, and 3,654 people were examined by the relatively crude method of checking for 'Winterbottom's Sign' - the visible enlargement of the cervical glands at the back of the neck, a symptom of the early-stage disease.[20] The medical officer found that almost

18 1913 MDAR, 91; and see Chapter One.

19 1914 MDAR, 33; 1918 MDAR, 25.

20 This was named for T.M. Winterbottom, physician of the mercantile British Sierra Leone Company in the 1790s. In an indication of how the disease was present and known in West Africa a century in advance of its medical description, he observed that slave traders refused captives with swollen neck

8 percent of the population appeared to be infected with sleeping sickness, with the most intense prevalence of symptoms in 16 villages located within three miles of the Black Volta and Kamba rivers. Here the infection rate was approximately 14 percent, with more than one in eight people potentially affected.[21] The findings were important not only because they indicated the increasingly epidemic scale of the disease, when this was largely unrecognised in Accra, but also because this was the first report which identified the Kamba valley and its surroundings as a zone of high human sleeping sickness prevalence. It would subsequently become a focal point for the anti-tsetse fly campaign, and then for epidemic onchocerciasis.

This was not the only report sent to Accra about the serious prevalence of sleeping sickness in the north. In 1925, on the orders of the Imperial Bureau of Entomology, the Gold Coast had added a new and apparently enthusiastic entomologist to its staff.[22] A.W. J. Pomeroy was initially tasked with investigating termite infestations in the bungalows of colonial officials in Accra, but was later assigned to work on tsetse fly distribution and cattle trypanosomiasis along the main routes for the cattle trade to the south; disruption to the southern economy was again a central motivation for work on a northern health problem.[23] He was not required to assess the human aspect of the disease via direct examination of people, but in the course of his work he uncovered further evidence of a growing epidemic. In the sources he emerges as a relatively isolated official voice calling attention to sleeping sickness in the 1920s, and may have been removed from his position as a result. His first project was an assessment of animal trypanosomiasis on the eastern cattle-trade route passing through Yeji, on the

glands, who would fall victim to 'sleepiness'. See Thomas Masterman Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone: To Which Is Added, an Account of the Present State of Medicine among Them ...* (London: C.Whittingham, 1803), 29.

21 1925-26 MDAR, 61-71, Appendix E: 'Report on the incidence of Sleeping Sickness in the Lawra District, October 1924'.

22 Ibid., 38, Appendix A: 'Annual Report Of the Medical Research Institute, Accra'.

23 1926-27 MDAR, 47.

Volta River frontier between the Northern Territories and Ashanti. While based there he oversaw a survey of human sleeping sickness in the village of Makongo, a major resting point for northern migrant labour making the journey south. Although this was a small sample (128 people), blood testing found that 6.5 percent of those surveyed were infected with trypanosomes. As Pomeroy and assistant entomologist G.F. Saunders reported, the difficulty in assembling a clear record of death rates in the Northern Territories meant that mortality was likely to be higher than the administration recognised.[24]

In July 1928, Pomeroy was re-assigned for a journey into French West Africa to discuss tsetse fly distribution and cattle infection with his French counterparts, where he became involved in a larger diplomatic exchange about the severity of the human sleeping sickness epidemic. In a confidential report he observed that every local official he met had reported a high prevalence of the disease, and one French officer pointed out that villages were being abandoned – Pomeroy himself noted that 'some villages which are marked on the map had ceased to exist'.[25] Pomeroy was met by the head of the Health Service of Upper Volta, Dr Dabadie, who told him that over 600 cases had been officially confirmed so far that year, and that the French administration was concerned about a 'probable decrease in population'.[26] He also held a meeting with Fournier, the governor of Upper Volta, who asked him to carry a message to the Gold Coast government on behalf of the Governor-General of French West Africa, saying that they were interested in urgent co-operation on the subject of sleeping sickness and that any suggestion they made would be given attention in Paris. His concluding

24 1928 MDAR, 67-77, Appendix B: 'The Tsetse Problem And Trypanosomiasis On The Eastern Cattle Route Of The Gold Coast'.

25 ADM/56/1/46 (1904-1927), Enc. 3: 'A Report on a tour of the Haute Volta and the Western Sudan with regard to Trypanosomiasis and Tsetse, with special reference to the relation of the problem in the Gold Coast', Paragraph 29.

26 Ibid., Paragraph 23.

request (unusual for a field entomologist) in his report to the Gold Coast government perhaps implies this urgency: 'May I suggest that there are some points which I feel it might be necessary to explain to His Excellency the Governor personally, which are extremely difficult to write with the exact shade of meaning, and which express the attitude of the French administration'.[27]

If a historian were to rely only the main text of the Annual Medical Reports for this period – without appendices and without reference to the internal files of the Medical Department and northern administration – then this apparent outbreak would largely be hidden from view, and it would appear that sleeping sickness only became a serious problem in the Gold Coast from the mid-1930s. In 1926, for example, the year after a survey had indicated a possible infection rate of almost 14 percent of village inhabitants in parts of the north west, the Annual Medical Report concluded that 'unlike East Africa, this disease is commonly not met with in man. Deaths from the disease in dogs, cattle, and horses on the other hand are of frequent occurrence'.[28] In 1927-1928, the same year as Pomeroy's work showed an infection rate of 6.5 percent among people in the labour-transit village of Makongo, the Annual Medical Report recorded that 'The disease on the Gold Coast is fortunately not the scourge it is in other parts of equatorial Africa and does not call for very special methods to deal with it. It not infrequently happens that it is accidentally discovered in a patient who is being examined for some other ailment'.[29] There was an evident contradiction here, as later medical officials observed: the frequent discovery of sleeping sickness by accident, among the small number of people who presented for treatment at limited medical facilities, indicated the high prevalence of the disease in the broader population.

27 Ibid., Paragraph 43.
28 1926-27 MDAR, 21.
29 1928 MDAR, 11.

In 1928-1929, the year that Pomeroy submitted his report on the scale of the outbreak in French Upper Volta, the Annual Medical Report argued more defensively that 'Human trypanosomiasis has attracted more attention than in previous years, and a greater number of cases are recorded, but it would be entirely premature to conclude that it is on the increase. In all probability the correct explanation is that greater facilities have occurred for observing the disease'.[30] In that year, 94 cases were officially confirmed by the Gold Coast Medical Department, when the French administration had confirmed 600 cases in Upper Volta, many of them in villages just across the border from the Northern Territories.[31] Pomeroy's private report on his journey to French territory, approximately half of which had been devoted to observations about the serious prevalence of human sleeping sickness, was condensed into a memorandum that made no reference to the human form of the disease. This incorrectly stated that Pomeroy's findings concerned animal trypanosomiasis and tsetse fly control only, and appeared to discard the recommendations he had made for preventing further spread of sleeping sickness by placing controls on labour migration from north to south, and from French Upper Volta into the Gold Coast via the north. It argued 'now that the information is to hand, the executive measures can be left to others'.[32] The investigative project which Pomeroy had led was closed, and Pomeroy himself was redeployed to mosquito research at Takoradi, on the coast, then dismissed a year later. The annual report concluded that 'it was the opinion of the Medical Department that as human sleeping sickness appeared to be of minor medical

30 1929 MDAR, vii.

31 1928 MDAR, 11; for French districts affected see ADM/56/1/46 (1904-1927), Enclosure 3, 'A Report on a tour of the Haute Volta and the Western Sudan with regard to Trypanosomiasis and Tsetse, with special reference to the relation of the problem in the Gold Coast', Paragraph 43.

32 ADM/56/1/46 (1904-1927), Enclosure 4, Memorandum on findings of Pomeroy's work, undated; and Enc.5 p.19: Letter from Principal Veterinary Officer to Colonial Secretary and Head of Gold Coast Medical Research Department, 27 August 1929.

importance, the investigation should end'.[33] With the ending of his involvement the Medical Department published a lengthy report on four years of trypanosomiasis and tsetse fly research, led by a group of entomologists under Pomeroy. Despite his principle role, the report was not written by Pomeroy but by K.R.S. Morris, an assistant entomologist who had only recently arrived in the Gold Coast.[34] Ten years later, having also been dismissed and then re-hired, Morris oversaw the vast campaign of anti-tsetse forest clearance that fed into the onchocerciasis revelations of the independence era.

Several factors may have contributed to the administration's failure to recognise – or its official disregard of – the extent of sleeping sickness in the late 1920s, when the Northern Territories and French Upper Volta were already significantly affected by the disease. In part this disregard stemmed from medical preconceptions about sleeping sickness, based on the experience of administrations in British East Africa. Here a different subspecies of the underlying parasite, *Trypanosoma brucei rhodesiense*, gives rise to a rapidly progressing disease that leads to death within weeks or months of the initial infection, and had caused severe epidemics in the early twentieth century. In West Africa, however, the trypanosome subspecies (*T. brucei gambiense,* which accounts for almost all infections in the region) gives rise to a form of sleeping sickness that progresses over one to five years, also leading inevitably to death if untreated.[35] This much lengthier course from infection to death appears to have contributed to a misconception of the illness in Accra. Although the disease was known to be present, with a high prevalence of infection discovered in the north during successive surveys, the fact that some people who were infected did not rapidly die led health authorities to speculate that the disease posed a less serious

33 1929 MDAR, 123, Appendix G: 'A General Summary of the Tsetse Problem on the Gold Coast'.
34 1928 MDAR, 55 – 'Scientific Research: Report on the Medical Research Institute'; 1929 MDAR, 111-159, Appendices F, G & H – Reports on tsetse and trypanosomiasis.
35 Francesco Checchi et al., 'The Natural Progression of Gambiense Sleeping Sickness: What Is the Evidence?', *PLoS Neglected Tropical Diseases* 2, no. 12 (2008): 303.

threat, or that people in the Northern Territories possessed an unspecified form of resistance – as had been incorrectly conjectured for yellow fever in the same period. Successive reports argued that 'unlike in East Africa' or 'other parts of Equatorial Africa', widespread trypanosome infection did not constitute a major public health emergency.[36] This mistaken belief, partly shaped by the sleeping sickness surveys of Ashanti conducted in 1909-1911, in a different disease ecosystem to that of the north, appears to have led the Medical Department at Accra to discount the testimony of medics in the field, who raised alarms about growing death rates, depopulation, and abandoned villages.

There were other factors which may also have generated resistance to the recognition of a sleeping sickness epidemic by the Gold Coast administration, concerned with preserving revenues and maintaining the migrant labour supply to the south. The official recognition of any epidemic disease could entail a substantial loss of income, as it mandated the imposition of quarantine and control measures under both local and international law. In international terms, official notification of a specific set of diseases – those included in the International Sanitary Conventions of 1911 and 1926 – meant that a country, port or city declared as 'infected' could be subject to the suspension of incoming trade and inspection of outbound cargoes.[37] Apart from these formal measures, international notification of epidemics also acted as a more general deterrent to commerce, and neighbouring countries might be compelled to prevent their subjects from entering an infected region.

A similar set of laws existed within the Gold Coast itself, as in other British colonies, having initially been passed to protect Europeans at the coast from outbreaks

36 1926-27 MDAR, 21; 1937-1938 NTAR, 73.
37 See Sealey, 'International Sanitary Convention'; Cummings, 'The International Sanitary Conference'.

of disease in the broader African population.[38] These allowed medical officers to declare an area or trade route as 'infected', meaning that markets, general commerce, and – most importantly in regard to the north – travel by migrant labourers would be restricted. This tension between health concerns and economic imperatives gave motives for the understatement or concealment of disease conditions, and there were several occasions in colonial Africa where concealment took place. A notorious instance occurred on the Kimberley diamond fields in South Africa in the 1880s, where physicians in the employ of the mining business of Cecil John Rhodes – among them the future governor of the Cape Colony and part-instigator of the South African War, Dr L.S. Jameson – fought a politicised battle with local medics to prevent the official reporting of a smallpox epidemic in the region. They ensured that the disease was instead reported as an invented and supposedly minor affliction called 'Kaffir Pox', ensuring a continued influx of migrant workers into the infected area to maintain diamond production.[39] A comparable set of events took place on the Gold Coast from 1900-1910, in relation to epidemic yellow fever. As Scott, a former medical officer in the colony recorded, ‘a mining boom developed, and officials became concerned that the news that the disease was prevalent in the area should interfere with this, and for a time it was the practice ... to suppress the information when the infection was discovered’.[40]

In regard to sleeping sickness, administrators and private interests in Accra were opposed to the idea that labour migration from the north should be restricted by measures to control the epidemic. These would have involved declaring it publicly, followed by the mandatory imposition of quarantine laws. This opposition was evident

38 1908 NTAR, 3–6; 1919 NTAR, 6.

39 See Doonan, ‘Temperate Medicine and Settler Capitalism’, ch.6; and Shula Marks and Neil Anderson, ‘Typhus and Social Control: South Africa, 1917-1950’, in *Disease, Medicine, and Empire*, ed. Roy MacLeod and Milton Lewis (London: Routledge, 1988), ch.13.

40 Scott, *Epidemic Disease in Ghana*, 29.

even in 1935, when the scale of infection had been recognised and medical officers in the north were insisting on action against the disease. These officers proposed a control programme similar to that suggested by Pomeroy in the 1920s, involving a network of medical camps along the main labour migration routes, where people travelling south would be checked for infection and treated if necessary. In light of increased concerns about the disease, the government in Accra had belatedly convened a committee on human trypanosomiasis. But it refused the proposed control measures, saying:

> The Committee, while agreeing that a large number of the labourers entering Ashanti from the Northern Territories are undoubtedly infected, is unable to envisage any system of regulation which might be expected to succeed … any such scheme of control might interfere with the free flow of labour towards the mines, which are likely to make increasingly heavy demands upon the NTs as a source of supply. The scheme is also rendered impracticable because of the enormous expenditure which would be involved - labourers rejected as unfit would presumably have to be subsisted by government until such times as they could be safely returned to their homes.[41]

This indicated another set of factors, in addition to the Accra government's insistence on maintaining the southwards labour supply, that worked against official recognition of the sleeping sickness epidemic in the north from 1925. There was a sharp decline in the price paid for Gold Coast cocoa, and global economic instability culminated in the Great Depression. These developments meant that Britain tightened the imperial purse-strings when it came to expenditures in the Gold Coast, and the local government passed these cuts onto the northern administration and its health services. When it was given official or public recognition, epidemic disease could make a moral claim on the allocation of colonial funds, and could mobilise metropolitan opinion in pressing for greater resources towards prevention measures. Therefore, under conditions of economic decline, the disease's cost implications may have contributed to official disregard for rising sleeping sickness mortality in the north. In 1932, again

41 1935-1936 MDAR, 81, Appendix IV: 'Report of the Committee on Human Trypanosomiasis'.

apparently discounting reports from the region, the medical department at Accra argued that ‘with the evidence at our disposal, trypanosomiasis is a problem which at present does not demand a very large diversion of sorely needed and often inadequate funds, from more pressing items affecting the public health elsewhere’.[42] The epidemic had been growing since the mid-1920s, and by 1930 many more northern people were infected than were yet showing the terminal 'sleeping' symptoms of the disease, as blood testing and neck-gland surveys had revealed. But the entomologists reporting on sleeping sickness were nevertheless dismissed soon after the Wall Street Crash, and anti-tsetse work was shelved for some years.[43]

As with other diseases, the peripheral importance of both northern communities and the northern administration – the designation of these communities as the low-cost migrant labourers of the colony, and the administration's lack of political influence in Accra – meant that public health interventions commonly undertaken elsewhere in the Gold Coast were impeded north of Ashanti. Even when a disease was revealed to be present, and where measures were available for its control (including relatively effective drug treatments in the case of sleeping sickness), the Accra government was motivated to stall quarantine programmes in order to minimise spending on a region that was already considered a drain on the budget, and to maintain labour supply. The difference between labour-sending and labour-receiving areas is indicated by a comparison with British Northern Nigeria, a region affected by similar diseases, but which received incoming migrant labour for tin mines around the Jos Plateau. Here a network of clinics and quarantine camps was developed from 1904 onwards, soon after the colonial incorporation of the region, where labour migrants

42 1932-1933 MDAR, 48.
43 1930-31 MDAR, 70.

could be employed – or isolated as unhealthy – once they had already completed the journey.[44]

Successive Gold Coast reports took pains to emphasise that 'tryps does not give any cause for anxiety', or argued that rising infection rates were a mirage arising from increased interest in the disease by individual medics.[45] But by the mid-1930s the scale of the epidemic had become undeniable, giving rise to recriminations from northern officials. In 1937, the Chief Commissioner of the Northern Territories observed that:

> In 1928 it was reported that 'both human and animal trypanosomiasis is relatively unimportant'; while so recently as 1933 an Assistant-Director of Medical Service, although recording an increase in the number of cases treated, found it impossible to convince himself that 'human trypanosomiasis is such a serious cause of morbidity and mortality as to justify the diversion of large sums of money to eradicate it at the expense of other medical services needed by the inhabitants of the Colony'. But officers with long local experience of the Protectorate did not share the optimism implied in the extracts quoted above, and pointed to the areas where to their certain knowledge the high mortality caused by trypanosomiasis had led to the gradual depopulation and eventual abandonment of many villages.[46]

In 1937, more than 1,200 people were diagnosed with sleeping sickness at a single district hospital in the north-west of the Northern Territories, while 2,400 people received treatment for the disease in the small north-eastern Mamprusi district, journeying in large numbers to the district's limited facilities. These groups alone were more than six times the total number of sleeping sickness infections recorded in British Tanganyika that year, a 'high risk' colony that had consistently been used by the Accra government to emphasize the lack of any threat in the Gold Coast.[47] The years after 1935 were a time of revelation as far as official recognition of the disease was

44 Annual Report for Northern Nigeria, 1904, 143; B. W. Hodder, 'Tin Mining on the Jos Plateau of Nigeria', *Economic Geography* 35, no. 2 (1959): 109–22.
45 1930-31 MDAR, 11.
46 1937-1938 NTAR, 72.
47 See ibid., 73.

concerned. In 1936 the Gold Coast's annual report acknowledged nearly 5,000 cases in the Northern Territories, and a survey of the far north-west revealed that 35 to 40 percent of people were suffering from the disease.[48] Perhaps more importantly for prompting a reaction in Accra, a number of European officials had also been infected.[49] The reported cases in this period were probably a small fraction of the total number of people affected by the disease. In the community interviews I conducted with elderly people who had lived in villages away from the major trade routes, most participants said that they had little contact with medical officials working on any disease control campaigns, and no access to colonial medical facilities, until the very end of the colonial era.[50] Many similar settlements would also have gone unsurveyed for infections or deaths.

Given how sleeping sickness progresses slowly, with cases taking from one to five years to develop into the terminal disease, the sudden reporting of thousands of cases in the mid-1930s again suggests the extent of neglect, or deliberate blindness, over the preceding years on the part of the Gold Coast government. Once the disease was officially recognised, however, significant resources were immediately allocated for two campaigns: a medical campaign, based on short-term epidemic control though a network of quarantine camps and treatment with a range of drugs, and a longer-term prevention campaign based on the clearance of riverine forest throughout the north, aimed at eradicating the tsetse fly. Both had lasting implications for public health and disease prevalence in the region, unrelated to sleeping sickness itself. The remainder of

48 1936-1937 NTAR, 7.

49 1937-1938 NTAR, 6.

50 Including Group.01: Bongo Village (Guruni), Interview, Upper East, 27 July 2015; Group.02: Dua Village (Guruni), Interview, Upper East, 27 July 2015; Group.08: Dulugu Village (Guruni), Interview, Upper East, 29 July 2015; Group.10: Muriwie Village, Jirapa Area (Dagaare), Interview, Upper West, 7 August 2015; Group.16: Dagomba Community 1, Tamale Area, Interview 10 August 2015; Group.04: Tindonmoligo Village (Guruni), Interview, Upper East, 28 July 2015; Group.12: Busa Wala Community 1, Wa Area (Wala), Interview, Upper West, 8 August 2015; Group.13: Busa Wala Community 2, Wa Area (Wala), Interview, Upper West, 8 August 2015.

this chapter deals primarily with the anti-tsetse clearance programme, while I discuss some broader effects of the medical campaign in Chapters 1 and 3. Among other things, this campaign established a central role for indirect rule chieftaincies in the control of epidemic disease, blurring the line between political and medical authority, and it created one of the north's most successful public health institutions, the Medical Field Units.

The anti-tsetse bush clearing campaign and the path to onchocerciasis

In the late 1930s, as the treatment campaign against sleeping sickness continued to expand, a more expansive and enduring campaign was launched against the disease's vector, the tsetse fly. The work of this campaign – which proceeded with relatively little supervision from the north's political administration or its medical department – seems to have inadvertently contributed to an epidemic of onchocerciasis, that rose to local and international prominence during the independence transition.

Apart from immediate treatment and quarantine measures, it was recognised that in the longer term epidemic trypanosomiasis in both humans and livestock would only be brought under control by breaking the cycle of transmission. In the mid-1920s, the Imperial Bureau of Entomology had already made enquiries about the potential application of the 'Swynnerton Method' for tsetse control in the Northern Territories, an approach which had been successfully used in British Tanganyika.[51] This involved the destruction of habitat vegetation where the fly lived and reproduced, through large-scale cutting and burning, with the aim of reducing fly populations and limiting the spread of trypanosomes to existing settlements. In the north, some limited measures of

51 ADM/56/1/46 (1904-1927), Enc. 30: Memorandum from Chief Commissioner NTs to Colonial Secretary, 24 November 1925; And Enc.33: Notes on Request from Imperial Bureau of Entomology, Chief Veterinary Officer NTs, 4 July 1925; see also Tilley, *Africa as a Living Laboratory*, ch.4.

this type were used in the late 1920s, on the recommendations of Pomeroy and others. Clearing took place along the principal labour and cattle routes running from Upper Volta through the north, and around the principal transit towns on the borders with Ashanti and the Colony: part of an ongoing epidemiological and economic detachment of north from south, with northern health problems contained in the region while labour and livestock continued to move.[52]

This limited bush-clearance work was suspended with the onset of the depression in 1929, but it was resumed on a much larger scale after the extent of epidemic sleeping sickness was recognised in the mid-1930s.[53] K.R.S. Morris, an entomologist who had been dismissed in 1930, was re-employed to devise and oversee the anti-tsetse scheme, which operated between 1937 and 1955. Morris' work is one of the few aspects of the history of medicine in northern Ghana to have attracted previous research attention. Jeff Grischow's research approaches Morris as an agent of progress, emblematic of the 'developmental' phase of colonial rule, who achieved success in reducing sleeping sickness despite his idiosyncratic theories of disease transmission.[54]

Although limited anti-tsetse bush clearing was carried out along labour and cattle routes in the preceding decades, this had been accompanied by local administrative resistance to any major clearance campaign away from main roads.[55] When the Imperial Bureau of Entomology asked the Gold Coast administration to examine how the Swynnerton Method might be applied in the north, after its success in British East Africa, the Chief Commissioner of the Northern Territories replied in 1925 that tsetse eradication schemes of this kind were unsuitable to the region: he argued that there were was insufficient local labour available, and that any major scheme of bush

52 See CSO/11/19/06 (1932) Human Trypanosomiasis on the Gold Coast, PRAAD Accra.
53 1933-1934 NTAR, 62; and also CSO/11/19/06 (1932).
54 Grischow, 'Morris and Tsetse Eradication'.
55 See, for example, ADM/56/1/46 (1904-1927), Enc. 33-35: Notes on Request from Imperial Bureau of Entomology, Chief Commissioner and Chief Veterinary Officer NTs, June-July 1925, and passim.

clearance would disrupt economic activity (perhaps meaning the recruitment of migrant workers). The administration's counter-proposal recommended that bush clearing should be left to native farmers and mining companies, who were ‘already doing good work for civilisation by encroaching into it yearly’, and that the tsetse fly problem should instead be addressed through a major resettlement campaign. This proposed that immigrants from French territory, and communities from the northern border areas, should be induced to resettle and farm in areas of high tsetse prevalence to the immediate south, by offering them farming tools and livestock and by exempting them from forced labour for 25 years. The administration argued that this would lead naturally to clearance of the bush.[56]

This scheme, proposed in 1925, embodied a long-standing aim of the colonial administration: to move communities away from the densely-populated northern frontier and closer to the southern labour markets. As a related aim, the administration considered that there was underpopulated land in the Northern Territories – particularly the southern Gonja districts – which could be turned to productive agriculture. In 1937, these goals were clearly articulated in Morris' new proposals for an anti-tsetse bush clearing scheme which, unlike the Swynnerton Method, was explicitly directed towards the large-scale resettlement of the cleared areas. The ‘discovery’ of the 1930s sleeping sickness epidemic certainly gave rise to its own immediate pressures for a tsetse eradication programme. Faced with mass infection, the colonial office requested in 1935 that urgent action should be taken to avert a potential disruption to the mine labour supply.[57] Grischow argues that the Gold Coast government may also have conceived of the anti-tsetse campaign 'as a hedge against political resistance', although

56 Ibid., Enc. 33: Memorandum from Chief Commissioner and Principal Veterinary Officer to Colonial Secretary, 4 July 1925.

57 Deputy Director of the Medical Service to DMS, 15 March 1935, cited in Grischow, ‘Morris and Tsetse Eradication’, 389.

this is doubtful – there was no nationalist resistance in the north in the 1930s, when the campaign was conceived.[58]

Once these proximate pressures are taken into account, however, Morris' proposals appear to have won support because they also chimed with the longer term preferences of the Gold Coast government: for the resettlement of northern communities and the development of productive agriculture. As the Northern Territories annual report observed, in the martial idiom of disease control:

> [The situation] presents an excellent opportunity for a large-scale experiment of an aggressive attack upon trypanosomiasis. Briefly stated, the plan comprises simultaneous fly eradication and treatment of the disease, to be followed by repopulation and intensive development of the area. ... His plan of campaign differs basically from the policy adopted in Tanganyika. The latter involves the abandonment of territory to the enemy and may be described as a defensive retreat whereas the former, if successful in operation, will result in the recapture of valuable territory.[59]

The resettlement aspect of Morris' plan was attractive to an administration which had already been looking for a way to achieve this goal. But it was also this element that would bring northern peoples into increased contact with onchocerciasis, a disease which was not contemplated when designing the scheme. In his explanation of unexpected population distributions in the north, Morris only paid attention to one disease. During entomological surveys he had observed the ruins of long-abandoned villages along river valleys in the north, and had read reports on sleeping sickness from preceding decades: in conversation with local peoples, some northern officers had recorded that sleeping sickness and general poor health were occasionally associated with the slave raiding of Babatu Zatu in the 1880s, more than 50 years previously.[60] Morris combined these amateur archaeological and historical observations with his

58 See Jeff Grischow, 'Tsetse and Trypanosomiasis in the Gold Coast, 1924-1954', *Working Papers on Ghana No.5/2004* (University of Helsinki, 2005).
59 1937-1938 NTAR, 75.
60 See, for example, 1925-26 MDAR, 60–62; 1934-1935 MDAR, 86.

knowledge of tsetse ecology, in an elaborate theory which he believed accounted for the depopulation of river valleys and the impacts of sleeping sickness in the north. Grischow gives a summary of this theory:

> Ecological collapse was triggered by slave raiding in the nineteenth century, which reduced population densities to a point where the people could not fend off wild game or cultivate their bush farms. Tsetse flies invaded the farms, infested the wild game and moved into the villages to attack the people themselves. Production declines caused further food shortages and depopulation until entire villages disappeared. By the 1930s the cycle of decline had set the conditions for a trypanosomiasis epidemic to wipe out many of the settlements along the Black Volta and its tributaries … Faced with this situation, Morris and his team took on the challenge of reversing the process of ecological imbalance in the Northern Territories.[61]

Here Morris had extrapolated from one or two brief observations from past district officers, regarding a nineteenth century association between Babatu Zatu and sleeping sickness among northern communities, to construct a long-term epidemiological history of the disease in the north, accounting for the depopulation of fertile river valleys. Grischow suggests that this theory had taken shape by the 1940s.[62] But it was already present in a report Morris submitted as a subordinate entomologist in 1929, before he was dismissed in the staff cuts which followed the onset of the Great Depression. Then a junior officer, Morris conceded that his ideas 'may be over dogmatic, and the observations carried out in a comparatively short space of time'.[63] When he was re-employed in the late 1930s, to implement a major campaign of anti-tsetse bush clearance, he showed no such doubts. Morris promoted his theory constantly, through a number of metropolitan journals, and his ideas were perhaps more widely disseminated in London than in the Gold Coast.[64]

61 Grischow, 'Morris and Tsetse Eradication', 387.
62 Grischow, 'Tsetse and Trypanosomiasis', 6.
63 Morris, 'Report on Tsetse and Trypanosomiasis at Makongo', in 1929 MDAR, Appendix H, 130.
64 See, for example, K.R. Morris, 'Planning the Control of Sleeping Sickness.', *Transactions of the Royal Society of Tropical Medicine and Hygiene* 43, no. 2 (1949): 165–98; K. R. Morris, 'The Ecology of Epidemic Sleeping Sickness. I.—The Significance of Location', *Bulletin of Entomological Research* 42, no. 2 (1951): 427; K.R. Morris, 'The Science of Tsetse Control', *Nature*

Morris insisted that his theory of sleeping sickness accounted for the historical depopulation of river valleys, and that his clearance and resettlement methods would therefore open the way to an agricultural boom. But his campaign was based upon a critical misunderstanding of the northern disease environment, indicated here for example in 1946 (italics added):

> The removal of tsetse throughout the river system … has the following additional advantages: It makes possible a sound agricultural development … *It enables the population to live with impunity in the vicinity of permanent water* and to avoid concentrations on dry, hilly country away from rivers; thus the possibilities of over-farming and erosion are avoided and the watersheds and headwaters can be reserved for afforestation. By these means, instead of ground being abandoned to the tsetse, the fly is replaced by a healthy agricultural population.[65]

Onchocerciasis was almost (but not entirely) unknown in the colony at this time, and Morris's theory convinced the Gold Coast government, which already had the aim of resettling northern populations. The bush clearing campaign operated with significant funding allocations from 1937 to 1952.[66] It began on the valleys of the Kamba River, a tributary of the Black Volta in the north-west, and by the 1950s major clearances had been carried out on many of the Volta system rivers of the north. These clearance operations employed thousands of northern people, although it appears that at least some of this was unpaid or coerced labour, obtained through the Native Authority system.[67] A report published in advance of the campaign argued that it would be necessary to provide 'some amount of medical treatment' to communities in the campaign areas, 'in return for the work they do on clearing projects'.[68] After the Second

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164, no. 4183 (1949); K.R. Morris, 'The Control of Trypanosomiasis by Entomological Means.', *Bulletin of Entomological Research* 37, no. 2 (1946): 201–50; K. R. Morris, 'The Bionomics and Importance of Glossina Longipalpis in the Gold Coast', *Bulletin of Entomological Research* 25, no. 03 (1934): 309.

65 Morris, 'The Control of Trypanosomiasis by Entomological Means.', 249.

66 For example 1938-1939 MDAR, 104.

67 NRG/8/13/16 (1949-1955) Tsetse Control, PRAAD Tamale, See full file, and for example Enc.8: Letter from K.R.S Morris, Department for Tsetse Control, to Mr Panton, 23 January 1950.

68 1935-1936 MDAR, 81.

World War these labourers were paid, on relatively austere terms – in some cases workers were required to pay the government for their cutting tools.[69] Both this chapter and Chapter 4, on onchocerciasis, draw on interviews with individuals who were employed on the anti-tsetse campaign from the late 1940s, usually as youths.[70]

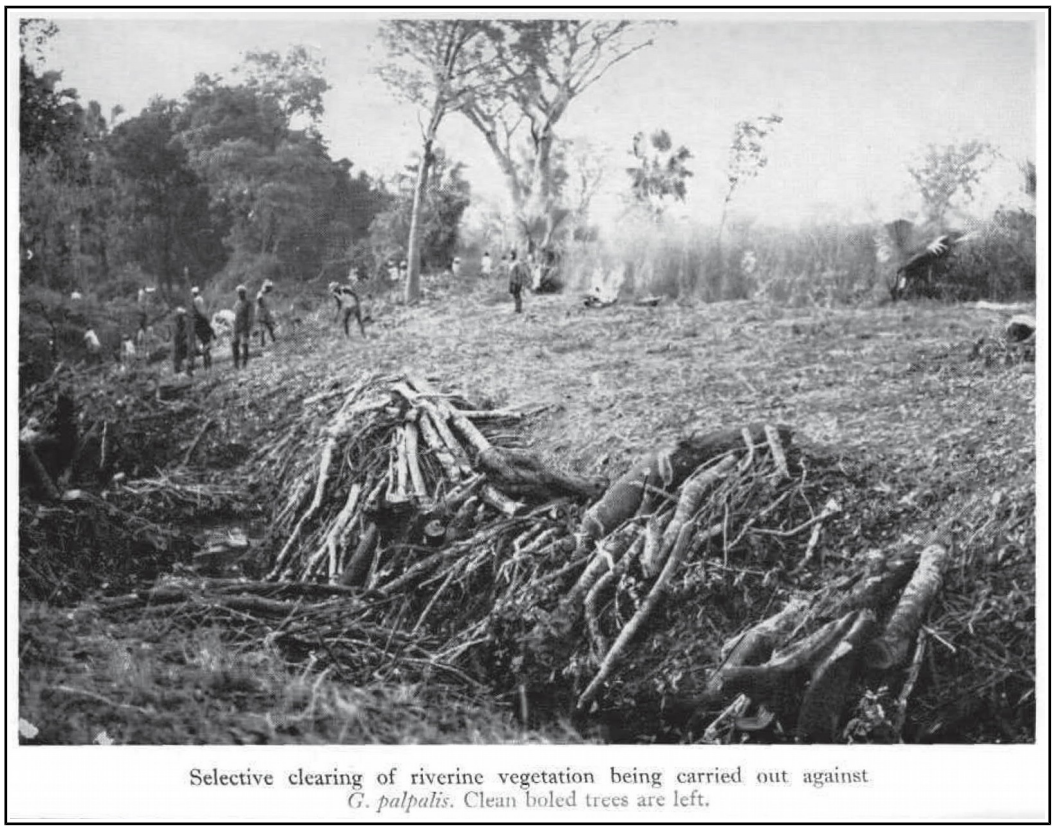

Figure 13. Selective clearing of riverine forest, northern Ghana (undated).
Source: Scott, *Epidemic Disease in Ghana*, p.139

The campaign's central method was 'selective clearing': the removal of rough-boled tree species which were considered to harbour the tsetse fly, leaving other riverine vegetation intact. In practice, as indicated by Fig.13, this meant the removal of most vegetation along the banks of each watercourse.[71] With resettlement and farming

69 NRG/8/13/4 (1945-55) Sanitation N.T.s Policy, PRAAD Tamale, Enc. 20: Memorandum from Acting Chief Commissioner to Colonial Secretary, 21 December 1948.

70 Group.12: Busa Wala Community 1, Wa Area (Wala), Interview 8 August 2015; Group.13: Busa Wala Community 2, Wa Area (Wala), Interview 8 August 2015; Group.10: Muriwie Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.11: Naachenyiri Village, Jirapa Area (Dagaare), Interview, Upper West, 7 August 2015; Group.14: Piisi Wala Community, Wa Area (Wala), Interview, Upper West, 8 August 2015.

71 Scott, *Epidemic Disease in Ghana*, 178.

as an aim, the clearing was intended to be permanent: some of those who worked on the anti-tsetse gangs recalled that their pay was docked if there was any regrowth of new shoots, with inspections carried out months after clearance.[72]

There is no way to gauge the full extent of the clearance work carried out between 1937 and the mid-1950s. It appears that regular activity reports were not required by other branches of the administration: the data relating to some river valleys or communities does not appear to have been retained in any archives, while other rivers and settlements listed by the campaign have since been renamed. In part this was because the north's Tsetse Control Department functioned as an independent organisation under Morris and his deputies, reporting to the Department of Agriculture and operating largely without supervision from the Medical Department and the Northern Territories administration.[73] However, an indication of the scale of the campaign comes from the Tsetse Control Department's retrospective summary of its work in early 1950s, when the colony's governance was being re-oriented towards independence and the value and cost of the campaign were increasingly called into question. The department reported that in the small north-west region alone, it had cleared over 2,000 square miles of riverine forest – more than three times the area of Greater London – including 600 square miles along the Kamba valley.[74]

Around 500 people had been 'placed' here in an initial post-clearance resettlement scheme in the early 1940s, and by 1949 Morris noted that a further 1,500 people had voluntarily resettled in the valley, establishing over 4,000 acres of new

72 Group.14: Piisi Wala Community, Wa Area (Wala), Interview 8 August 2015; Group.11: Naachenyiri Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.13: Busa Wala Community 2, Wa Area (Wala), Interview 8 August 2015.

73 See NRG/8/13/16 (1949-1955), for details on the chain of command for the Tsetse Control Department.

74 NRG/8/7/27 (1955-1964) Tsetse Control Department, Development Plan 1956-61, PRAAD Tamale, Enc.3: Tsetse Control Department Memorandum, 22 July 1955, and for area comparison see http://data.london.gov.uk/, accessed March 10, 2017.

farmland. Multiple dams were built on the river and its tributaries, and roads were constructed to allow access for communities and livestock – Morris reported that 90,000 people now had tsetse-free access to river valleys in the Lawra area.[75] The Kamba clearances were often cited as the model by which the overall campaign proceeded, and similar developments took place across the north. In the Damongo area of the Gonja district, for example, on the Sorie tributary of the Black Volta, 1,000 square miles of bush was cleared and 1,200 people resettled between 1944 and 1952, with a further sixty families resettled at a location referred to as 'Piri Lake'.[76]

This was the most expansive public health measure undertaken in the north during the colonial period, mobilising many communities and spanning more than twenty years. Patterson and Grischow have approached the campaign as a scientific or a developmental success, and the sources suggest that, in tandem with the Medical Department's quarantine and mass treatment campaign, it was indeed successful at reducing the incidence of sleeping sickness.[77] The campaign was shaped by Morris's theory about the historical abandonment of river valleys in response to trypanosomiasis, and driven by the desire of the colonial administration to increase revenues from the north. Grischow argues that it represented a successful colonial engineering of socio-economic behaviour, which 'set out to reverse a process of maldevelopment by redistributing the African population in the Kamba and Kulpawn river valleys'. Seen through this developmental lens, the campaign was not simply a contingent intervention against the immediate epidemic, but instead 'the long-term goal

75 NRG/8/13/16 (1949-1955), Encs. 6-11: Correspondence between Morris and DC Gonja, Damongo Region, January to April 1952; see also Morris, 'Planning the Control of Sleeping Sickness.'

76 NRG/8/13/16 (1949-1955), Enc. 6: 'Tsetse Control at Damongo', Report from Morris, Tsetse Control Department, to Chief Commissioner NTs, 19 February 1952; The location may refer to Lake Kpiri to the north-west of Damongo, which is no longer a settlement.

77 NRG/8/7/27 (1955-1964), PRAAD Tamale; NRG/8/13/16 (1949-1955); and see Patterson, *Health in Colonial Ghana*, ch.4; Grischow, 'Morris and Tsetse Eradication'.

of tsetse eradication was to even out population densities across the Northern Territories, as a basis for sustained community development'.[78]

Conclusion

The Tsetse Control Department's work secured Morris a reputation as an international expert, and its campaign has been hailed as a success in subsequent research. However, the anti-tsetse programme's public health benefits in reducing the spread of sleeping sickness, or its economic benefits in bringing agriculture to unpopulated valleys, must be considered in tandem with its unintended consequences. The campaign began to founder in the 1950s. The sleeping sickness epidemic had waned over the preceding decade, and the benefits of the programme, relative to its high costs, were less apparent to an African-led administration that increasingly prioritised popular health work against commonplace problems, like malaria or infant health, over less common diseases like sleeping sickness or yellow fever. In some districts the campaign had also failed on its own terms. Although valleys had been cleared, dams built, and access roads opened, northern peoples often proved reluctant to move into these areas in large numbers. The administration had expected that once large communities were resettled in the valleys, they would be able to maintain bush clearances themselves, and that resettled populations would continue expanding. But records from the end of the anti-tsetse programme show that some of its earliest valley clearances could no longer be maintained. Cleared vegetation had begun to regrow, and although some settlements were established, there had been no grateful flood of northerners into the valleys 'freed' from sleeping sickness.[79] Shortly before independence in 1957, the campaign was greatly reduced, and the Tsetse Control

78 Grischow, 'Morris and Tsetse Eradication', 397–98.
79 See NRG/8/13/16 (1949-1955), Enc.37: Tsetse Control Department, Progress Report 28 March 1955.

Department given what was largely an advisory role. It protested strongly, providing details on how many people it had resettled, how many dams had been built, and how many thousands of square miles of bush had been cleared. 'This is an executive department,' argued the new Head of Tsetse Control, F.A. Squires in 1955 – Morris had left the Gold Coast three years earlier, following the election of the first Nkrumah government. 'If all this is merely advisory, then words have no meaning'.[80]

By the mid 1950s, as the tsetse control programme was being wound up, another disease began to attract the attention of the colony's medical authorities. Surveys revealed that onchocerciasis, and the blindness it caused, occurred at higher levels in the Northern Territories than anywhere else in Africa. This now appeared to be the principal reason that communities had abandoned and avoided river valleys in the north: local knowledge which had been recorded by various colonial officers in the preceding decades, but which was not considered in the formulation of the colonial anti-tsetse campaign. Instead the campaign had brought people into much closer contact with the disease.

The late colonial 'discovery' of onchocerciasis is the subject of Chapter 4, and this linked chapter serves as necessary context for the disease's association with tsetse control. The chapter has also examined some aspects of colonial-era sleeping sickness and its related control work that have not received significant attention in prior research. The sources suggest that sleeping sickness was widespread in the north at an earlier stage than has previously been recognized, well before 1930, and that the relatively low attention given to the disease stemmed from the north's marginal situation in the Gold Coast's economic and political order. From 1909 onwards, indications that the disease might be present in the south had resulted in village-by-

80 NRG/8/7/27 (1955-1964), Enc.3: Tsetse Control Department Memorandum, 22 July 1955.

village surveys and rapid containment measures, even when the prevalence of the disease had not yet been determined: these surveys showed that sleeping sickness posed little threat in the south itself. Over the same period, a number of reports from individual medical officers indicated that the disease posed a serious problem for many northern communities. But resources were instead directed at maintaining a sanitary boundary between north and south, leading to recriminations and accusations of neglect when the extent of northern sleeping sickness was officially recognized in the mid-1930s. The subsequent tsetse control programme was also shaped by the economic and developmental preferences of the colonial administration, which for decades had sought to increase regional revenues through agricultural resettlement. In the conduct of the bush-clearing campaign a great deal of executive power devolved to Morris, focused on a single pathogen and operating with little oversight from the northern administration or the central Medical Department. The ecological effects of the campaign are hard to calculate, although the clearance of several thousand square miles of riverine forest is likely to have resulted in some reconfiguration of the northern environment. As I discuss in Chapter 4, the campaign was immediately followed by the extensive treatment of northern rivers with DDT and other larvicides as a control measure against onchocerciasis, carried out by local officials with little or no prior experience of chemical vector control, and operating at a similar remove from regular oversight. After years of control work focused on a single disease, the sudden attention given to widespread onchocerciasis – among the same communities and in the same river valleys that the Tsetse Control Department had worked for decades – was in part a result of the department's misguided clearance programme, and an indication of the administration's previous inattention to other persistent health problems in the region.

CHAPTER 3

Northern health services and the transition to independence, 1945-1966
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This chapter continues the institutional history begun in Chapter 1 by examining key themes, linkages and discontinuities in the state's provision of northern healthcare. Here I assess a critical transition: how a short-lived period of 'developmental' colonialism in the late 1940s gave way to the rapid reforms and political shifts of the independence transition itself, and the extent to which the institutions of colonial healthcare were maintained or effaced after independence. In this period, unexpected divisions emerged within the outgoing colonial administration. Rising nationalism in the south, and public health reforms under the first government of Kwame Nkrumah from 1951 (when the Convention People's Party won the Gold Coast's first election for internal African self-government) undermined the north's Native Authority healthcare system, and gave rise to a confrontation over the future arrangement of the region's health services – between British and African central governments in Accra, on the one hand, and traditional northern elites supported by a dwindling group of local British administrators on the other.

Although the period from 1945 to 1957 is by definition part of the colonial era, and the years from 1957-1966 are evidently part of the post-colonial era, I hope to demonstrate that for health in northern Ghana, events from the late 1940s to the early 1960s should be seen as part of a single over-arching event sequence. Many of the healthcare reforms enacted by Gold Coast governments after the war were made in anticipation of independence, and all healthcare activity took place in the context of rising nationalism and political factionalisation. In the same way, many key shifts in

northern healthcare under the CPP government had been set in motion during the early 1950s, before Ghana formally gained independence. There were of course many developments and themes specific to each period. The transition to independence was the most significant shift in Ghana's overall political arrangements across the century, and perhaps the most significant change in its economic structures, although structural adjustment in the 1980s had more significant consequences for societies and health systems in the north. The independence transition altered the state's evaluation of regional needs and its conception of particular health problems, creating gulfs and disjunctures in the resultant provision of health services.

In the first part of this chapter I assess northern healthcare in the late colonial period, when British policies developed in the aftermath of the Second World War were abandoned or reformulated in light of nationalist politics in the south. I continue by discussing changes that followed the establishment of an African government in Accra from 1951, over the second and third national elections in 1954 and 1956, and on to independence in 1957. The departure of the north's medical and administrative staff and cuts in British funding for the region were overlaid with political tensions between African elites in the north and south. Although successive investigations and policy proposals emphasised the need to expand northern health services, in the early 1950s there was a relative decline in the net provision of state healthcare. Funds allocated for the expansion of northern hospitals were withheld, the Native Authority rural health system was undermined by the centralisation of health training in the south, and the government transferred a number of government health facilities to the control of Christian missions. But this period also saw the creation of one of the north's most enduring and successful health institutions, the Medical Field Units. In the second part of the chapter, I evaluate developments in the north after independence: how domestic

politics related to the cocoa economy, Ghana's shifting international orientations, and the north's persistent peripherality contributed to a crisis in health provision after 1961. In both this chapter and Chapter 5, I introduce new sources which illuminate the evolution of public health policy in Ghana as a whole, regarding the divergence of regional health systems and the pressures which came to bear on health practitioners across the country.

Part 1. Health and politics in the last years of the Gold Coast

Late colonial health policy and north-south relations

Before the Second World War had ended, Britain had begun formulating plans for the post-war development of its colonies, with an increasing emphasis on the principle of 'Native Paramountcy' that had been ineffectively articulated in the early Colonial Development Act of 1929 and the Colonial Development and Welfare Act of 1940, passed at the outset of the war as thousands of African subjects were recruited for military service. Memoranda on post-war planning were sent to the government of the Northern Territories, emphasising a policy of expanding health services and ensuring that 'the benefits of economic development accrue to the people'.[1] As nationalist political activity increased after the war, and particularly after the Accra riots of 1948, efforts were made to minimise or obscure the 'colonial' aspects of colonial governance. The Gold Coast Medical Department steadily changed its terminology, editing out words like 'natives' and 'colonial' in its various reports. Britain's Colonial Medical Committee became its Advisory Medical Committee, and the Tamale African Hospital

1 NRG/8/5/19 (1942) General Welfare Committee, PRAAD Tamale, Enc.1: 'Confidential Memorandum on Machinery for Post-War Planning', undated; and see also Enc.3: 'Social Conditions of Persons in the Employ of the GC Government', Letter from Colonial Secretary, Accra, to NTs Administration, 30 October 1943.

became the Central Tamale Hospital.[2] Political considerations played an evident role in the formulation and execution of health policy and other work based on the ostensibly 'neutral' sciences. In the south, some of the most significant political unrest of the post-war period emerged from a conflict between colonial-era science and African smallholders, during the swollen shoot disease campaign of the 1940s. This was a plant disease which affected the cocoa harvest, and government scientists launched a control campaign based around the compulsory 'cutting out' of both healthy and infected trees on the farms of southern smallholders. A number of studies have examined how anger on the part of African farmers at the forced felling of their trees, with resultant economic losses, played a key part in the development of nationalist activism, and contributed directly to the riots of 1948.[3] The Swollen Shoot campaign brought scientific and medical work to the foreground in African debates about the nature of colonial injustices – as the Gold Coast's Watson Commission (established to investigate the riots) observed in 1948, 'We recognize that present feelings make it unlikely that further British scientific advice will be accepted as impartial'.[4]

As the political climate changed, disease control methods that had previously been widely used were suddenly discarded, notably with the use of coercive quarantine and the closing of markets during meningitis epidemics in the north. In 1945, medical officers in the north had made extensive use of the army and local police to enforce a strict quarantine programme, with markets and roads closed, and people interned in treatment camps. In the north-west, police acting on the orders of British MOs had forced thousands of people to sleep outside in farmland surrounding their homes,

2 NRG/8/13/8 (1947-1954) Hospital General, PRAAD Tamale, Enc.1: Letter from Assistant Medical Director, Kumasi, to Medical Dept and CC NTs, Tamale, 8 August 1947; and see, for example, the marginalia on appropriate terminology in CO/859/108 (1945); CO/96/798 (1949).

3 See Francis K. Danquah, 'Rural Discontent and Decolonization in Ghana, 1945-1951', *Agricultural History* 68, no. 1 (1994): 1–19; Roger Gocking, *The History of Ghana* (Westport, Conn.: Greenwood Press, 2005), 81–82.

4 Watson Commission, quoted in Danquah, 'Rural Discontent', 12.

during the cold and dusty months of the *harmattan*, guided by the belief that this would interrupt meningitis transmission in crowded dwellings.[5] By 1949, however, the year after the Accra riots, the Gold Coast Medical Department announced that 'restrictive measures imposed by order are of little value and the DMS does not propose to ask for them in future'.[6] The same northern medical officers who had argued strenuously for forced quarantine, and who had subsequently given lectures to medical audiences in London on the value of their new control method (forcing people to sleep in the open air), now reported that restrictive measures were an unconscionable interference 'with the normal and lawful dry season activities of the people'.[7]

In the Gold Coast as a whole, medical science and medical idioms do not appear to have played a significant role in shaping the African nationalist movements that emerged in the decade before independence, unlike the Asian nationalist movements studied by Warwick Anderson and Hans Pols, where a high proportion of scientifically trained independence-era leaders contributed to 'an anticipatory nationalism derived from scientific enthusiasm and sensibility'.[8] This may have been the result of a Gold Coast policy which limited the options for medical or other scientific training available to Africans, and which consistently restricted the employment options available to those who were trained.[9] But the converse was certainly true. In the Gold Coast from 1945 to the end of colonial rule, medical activity

5 CO/859/108 (1945), Enc. 17: B.B. Waddy, Medical Department Wa, 'Report on the late stages of an epidemic of Cerebrospinal-Meningitis in the Western NTs', June 27 1945; GB/0809/v54.6 (1957), Waddy 'Cerebro-spinal Meningitis', 7–11.

6 1948 MDAR, 7; See the changed approach to disease control between CO/859/108 (1945); and CO/96/798 (1949).

7 GB/0809/v54.6 (1957), Waddy 'Cerebro-spinal Meningitis', 13.

8 Warwick Anderson and Hans Pols, 'Scientific Patriotism: Medical Science and National Self-Fashioning in Southeast Asia', *Comparative Studies in Society and History* 54, no. 1 (2012): 93–113.

9 Adell Patton, *Physicians, Colonial Racism, and Diaspora in West Africa* (Gainesville: University Press of Florida, 1996), 163–175 and passim.

and the application (or even admissibility) of particular scientific viewpoints were strongly conditioned by the rise of African nationalism.

The overall healthcare policy of the Gold Coast was in flux from the end of the war until the end of colonial rule. Three successive proposals for reform of health services were put forward, and each was abandoned in favour of new plans chosen because of their implications for political stability in the colony, for their lower costs to Britain, which looked to cut its spending commitments as it became clear that colonial rule would end, or because of the relative balance of European and African input which had gone into the formulation of health reforms. The first shift came in the late 1940s, with the formulation of the Medical Department's '10 Year Development Plan', which argued that 'the future shape of medical services in the Gold Coast depends on a choice that must be made at this stage, between the rival claims of preventive and curative work. To aim at providing services satisfactory in both respects, for the entire country, is out of the question'.[10]

The proposed 10-Year Plan noted the 'overwhelming demand' of the African public for curative services based around drug treatments, arguing that this demand had been boosted by successful campaigns in the 1930s and during the war.[11] The Medical Department argued that it was necessary to resist political pressure from the Gold Coast government and African subjects, in order to pursue a policy of preventive medicine that would have a longer-term impact in reducing the prevalence of disease: 'The temporary success of [curative campaigns] would be impressive, and their popularity would be great. But it is not that way that genuine, permanent improvement lies'.[12] A policy shift towards preventive medicine had been a sustained focus of advocacy by

10 NRG/8/7/9 (1949-1951), Enc.1: Draft Ten Year Plan & Comments 1948, 2.
11 Ibid., 2-4.
12 Ibid., 1-2.

northern officials from the 1920s, who had seen the falls in disease prevalence that resulted from improvements to water supplies in the south. But the Medical Department's 10-Year Plan also proposed reforms that would have made the expansion and uptake of heath services in the north more difficult. It argued that payment should be required for all treatments, saying that 'it is only when people pay directly for services that they demand, that they will realise the reason for limitations'.[13] As I discuss in Chapter 5, attempts to make northern communities pay for health services on the same basis as southerners, using income metrics derived from aggregates for the whole country, had the effect of rapidly driving down the use of government health facilities.

The first 10-Year Plan anticipated that rural healthcare across the Gold Coast would be provided through a new network of basic 'Health Centres', comparable to the village dispensary system first developed in the north, and that Native Authorities would fund and operate almost all of the proposed new facilities (the government planned to build a further 170 health centres, in addition to the NA dispensaries already in operation).[14] The north's successful expansion of rural health services was to be emulated across the Gold Coast, and the earlier decades of neglect – which had prompted northern communities to expand healthcare through the NA system – meant that the region already had a relatively well-developed Native Authority healthcare infrastructure in relation to the rest of the colony, even if there were few government hospitals or other centrally-funded medical facilities. However, the first 10-Year Plan was revised substantially from 1949, after the Gold Coast appointed R.S. Cheverton as the Director of Medical Services. Cheverton's amendments to health policy anticipated the end of colonial rule, if not how soon it would come: he proposed to implement

13 Ibid., 1-2.
14 Ibid., 6-7.

measures that would ensure the capacity of health services 'when eventually the country is handed over to the Gold Coast people'.[15] Unlike many previous directors, Cheverton toured the entire colony, including the north, attempting to gain an understanding of regional health needs. After discussions with local medical officers, he approved the fusion of the north's mobile curative campaigns against yaws and sleeping sickness (in operation since the 1930s) into a new unified service intended to provide broad-based healthcare to communities away from the road network.[16]

This service, the Medical Field Units (discussed below), would become one of the north's most enduring health institutions. It continued to operate into the early 1980s, and its staff acted as a crucial ark of local information and practical medical knowledge across the independence transition. But although he helped to create an enduring northern medical institution in the Field Units, Cheverton also began a process which lead to the end of the Native Authority healthcare system. He recommended the centralisation of medical training away from the north, and advised against entrusting Native Authority dispensers with the responsibility for rural medical treatments, despite their successes over the preceding 18 years.[17] Cheverton also recommended that church groups and other 'voluntary organisations' should assume a substantial degree of responsibility for the colony's medical services, with funding to be provided by the central government.[18] These proposals, also discussed below, contributed to a process of professionalisation and part-privatisation in late Gold Coast healthcare.

15 NRG/8/13/11 (1949-57) Medical Department Policy, PRAAD Tamale, Enc.7: Report from R.S. CCheverton-'Observations on the Medical Department following a tour in the Gold Coast and Neighbouring French Territories Between November 1949 and April 1950', 53.
16 Ibid., 49.
17 Ibid., 4, 40–55.
18 Ibid., Enc.5: Memorandum from Cheverton, 'Assistance to Voluntary Agencies', 24 April 1950, 1-10.

It is difficult to gauge the extent to which the publication of these 10-year plans from 1948 – and other announcements regarding proposed improvements in the health or social well-being of Gold Coast subjects – were made with the intention of carrying them through to completion, and to what extent they were made as a short-term strategy to demonstrate British benevolence and stave off nationalist unrest. The most substantial changes to health policy came in 1953, with the third set of substantial reforms to be made in less than five years. These final reforms were a clear product of the independence transition. Kwame Nkrumah's CPP won the Gold Coast's first election for internal African self-governance in 1951, in the same year that the Northern Territories and its African representatives were given representation in the overall government of the colony.[19] After the 1951 election a Ministry of Health and Labour was created, and in 1953 this fused with the Gold Coast Medical Department to become the Ministry of Health under an African minister, Imoru Egala.[20] With the accession of an African government, a new panel of external experts was appointed by the British-led Executive Council (to which the African government remained subordinate), to investigate and devise a national health policy. This was the Commission of Enquiry into the Health Needs of Ghana, known as the Maude Commission for its leader, Sir John Maude, former Permanent Secretary to the UK Ministry of Health. The other leading members of the commission were Dr G.A. Clark, Britain's Principal Medical Officer, and A.E. Lerenson, then working as a public health expert for the International Bank for Reconstruction & Development (later the World Bank), marking the first involvement of a Bretton Woods institution in Ghana's health policy.[21]

19 Gocking, *History of Ghana*, 95–102.
20 See 1953 MDAR; Brukum, 'Northern Territories under British Rule', 314–15.
21 NRG/8/13/18 (1951-1964) Health Needs Of Ghana, PRAAD Tamale, Enc.2: Circular from Minister of Labour & Health, 1951.

The commission's mandate was to review existing colonial health policies (the 10-year plans) and propose new measures for expanding the national health system.[22] Its recommendations were shaped by the turn towards socialised medicine in Britain itself, where the post-war Labour government had created the National Health Service in 1948. Daniel Arhinful argues that by looking to the NHS as its ideal, the Maude Commission failed to account for local demographic and economic factors that limited Ghana's ability to finance a health system that was free at the point of use – the commission overturned the recent 10-Year Plan and recommended that medical fees should be abolished, which took place in 1952.[23] The same criticism (of failing to account for regional specificities) could be made of some of its other recommendations. With the NHS as a model, Maude's panel proposed an end to decentralised Native Authority healthcare in favour of a network of centrally controlled and funded district Health Centres, which in turn would operate smaller rural facilities.[24] This meant most of the northern healthcare system, developed to circumvent colonial-era neglect, was again dependent on spending decisions made in Accra. Nkrumah accepted the Commission's recommendations, and the ensuing reforms immediately led to strong criticism and resistance in the north, from the local administration and from northern communities who had become an increasingly public voice in the planning of their healthcare.

22 Ibid., Enc.2.
23 Arhinful, 'Health Care In Ghana', 44–46.
24 NRG/8/13/18 (1951-1964), Encs. 16-21: Letters from Ministry of Health & Labour to Northern Territories Administration, 1951-1952.

Figure 14. A vision of independence-era modernity: Kumasi Central Hospital, 1954
Source: TNA, Colonial Office photographic collection CO 1069-43-67

Northern health services at the independence transition: the north-south debates

This was the evolving national context for changes in the provision of northern healthcare in the years leading up to independence. Reforms proposed in the context of late-1940s 'developmental' colonialism were quickly superseded by reforms enacted under the transitional governments of the early 1950s. In the north, these changes gave rise to tensions that were evident in a series of debates about key areas of community health provision: about the fate of the Native Authority health system; the construction of new hospitals; the location of the Maude Commission's proposed rural Health Centres; plans for staffing the health services; and about the role of Christian missions. As independence approached, the centres of political power multiplied. There were British and African governing bodies in Accra, and newly appointed African councils in the north. The region's British-led administration, a small and relatively

isolated group of political and medical officers who for years had been in tension with the central colonial government, now found itself in confrontations with the 'diarchic' African- and British-led government in the south, in an attempt to protect the region's existing healthcare provision whilst negotiating the period's shifting political terrain. In these confrontations the north's British officials were given a significant degree of support by local communities and their leaders.

Before turning to the various healthcare debates, it is important to note the antagonistic political climate which developed between African political elites in the north and south as independence approached – a rift which had already become evident during decades of northern subordinacy as a migrant labour supplier, and which to some extent was encouraged by the British government after the war.[25] Independence-era tensions began to build after 1946, when instead of granting northern representatives (comprised almost entirely of Native Authority chiefs) a place on the newly-created African Assembly of the Gold Coast, the British government instead created the Northern Territories Council, a body with limited local power and little influence on policy decisions made in Accra. The experience of the African members of the Northern Territories Council, shut out of central decision-making, prompted a group of northern chiefs to create the Northern People's Party (NPP) to contest the second national elections in 1954. At this election the NPP unexpectedly received more votes than any southern party apart from the CPP, enough to become the official opposition. As Brukum has argued, the NPP's sudden rise to official opposition 'again formalised the difference between north and south'.[26] Even before the creation of the NPP, the north's political elites (again, principally meaning the Native Authority chiefs) had

25 Saaka, 'North-South Relations', 144–45.
26 Brukum, 'Northern Territories under British Rule', 371; and see also Saaka, 'North-South Relations', ch.7.

staked out a position in opposition to southern nationalist politics, to the extent that they were initially unwilling to countenance a transition to independent rule. Northern chiefs argued that independence should not be granted until the region had been developed to a comparable level as the south, because its inequality would otherwise become further entrenched. 'We do not want, when we get self-government, to look upon the people of the south in the same way as we look upon the imperialists and the white man,' said Mumuni Bawumia in 1954, one of the north's first legislative representatives.[27]

Figure 15. Charles Arden-Clarke, the final British governor of the Gold Coast, meets with northern traditional leaders in Tamale, 1954
Source: TNA, Colonial Office photographic collection CO 1069-43-9

Northern political figures were keenly aware of the position the region had occupied in the colonial economy, saying that if reforms were not enacted before independence, the north would 'remain nothing more than a labour camp'.[28] They observed that little had changed in the early 1950s, when Nkrumah's first government

27 Bawumia, quoted in Brukum, 'Northern Territories under British Rule', 374.
28 J.A. Braimah, 1952, quoted in ibid., 375.

was given responsibility for internal affairs. The north continued to received disproportionately low expenditure votes from Accra, including for its health services, and it had little influence on policy or staffing decisions. The Tolon-*Na*, an influential Dagomba chief, argued that 'the south has monopolised all the top posts in all departments. Northerners regard themselves as servants, not partners in development'.[29] With independence imminent, the Northern Territories Council sent a delegation directly to London in 1956, in a final attempt to obtain developmental and political guarantees for the north. But the retreating British government had already informed northern chiefs that the treaties which Britain had signed with northern leaders in the late 1890s, permitting the incorporation of the Northern Territories into the Gold Coast, were no longer regarded as 'significant', and the delegation's petitions were refused.[30]

These concerns indicate the extent to which prior neglect had shaped northerners' perception of their region's place in the colony as a whole. In the period from 1949 to independence, therefore, there were several political groupings with potential influence on the development of northern health services. From Accra, the governor and other British officials continued to exert control over policy and expenditure allocations, although they increasingly deferred or acted in an advisory capacity to the African government led by Nkrumah and the CPP. In the north there was the NPP as the dominant political party, and the Northern Territories Council as a governing assembly representing the chiefs of the Native Authorities. There was also the north's British administration, under a Regional Commissioner. This gradually declined in size and its capacity for oversight, as independence approached and staff left the Gold Coast, but some officials who remained became increasingly combative

29 Tolon Na, quoted in ibid., 373–74.
30 Ibid., 351–60; Saaka, 'North-South Relations', ch.7.

about perceived neglect of the region. This advocacy was not confined to the health sector. As Ines Sutton observed in her study of Northern Territories agricultural policy:

> There was a distinction between the attitudes of Gold Coast government and officials in the south, and those of local officials in the north ... There was continual conflict over the allocation of resources between officials in the north and Colony officials, who saw the Gold Coast as a whole, with the north forming only a minor part in economic terms, except for the supply of labour.[31]

This tension between the central and peripheral branches of the government was particularly acute in regards to healthcare – as Michael Worboys has noted, public health brought the contradictions of Britain's colonial policy into relief for officials in many African regions.[32] When the central government published the first 10-Year Plan for medical services, it argued that the north had historically been given lower health budget allocations simply as the result of its low population densities. The north's Chief Commissioner immediately responded, saying:

> The reference to population density is misleading - it would be more accurate to say neglect was due to the scarcity of paying patients. But I suppose we cannot. The picture of population density conveyed in your Memorandum is a false one. In point of fact the southern 1/3 of the Territory is sparsely inhabited but the North, especially the North-East and the North-West are as densely populated as any non-urban part of the Gold Coast – in fact probably more so.[33]

Direct official remonstrations of this kind became more frequent from the late 1940s. It appears that under the conditions of impending independence, with the former Gold Coast government's control at Accra weakening and the exploitative aspects of colonial rule becoming an increasingly accepted element of public discourse in both Britain and the Gold Coast, northern officials felt able to more directly express opinions that had previously been couched in euphemism or understatement, or only ever

31 Sutton, 'Colonial Agricultural Policy', 642.
32 Worboys, 'The Colonial World as Mission and Mandate', 213.
33 As successive annual reports indicated, these high population densities were well known to the central government. NRG/8/7/9 (1949-1951), Enc.25: NTs Chief Commissioner to DMS, Accra, 1 March 1949.

pencilled into the margins of official reports.[34] In another example, the northern administration pushed back against the decision to start charging medical fees across the colony, saying 'We wish to make it quite clear that the great majority of NT people should continue to be treated free'.[35] Officials in the north collectively developed a way to bypass the fees directive through a discretionary power granted to individual medical officers, enabling them to define almost all northern people as exempt from medical fees.[36] The Northern Territories administration also began to criticise long-standing health initiatives that had been supervised from Accra – particularly the government's anti-tsetse bush clearance campaign, overseen by the Department of Agriculture.[37]

In the first of several sustained debates about the future of northern healthcare, the northern administration came into conflict with the Accra government over its attempts to reduce the region's Native Authority health system. NA healthcare had previously been hailed as a success, including by the central Medical Department, and NA dispensaries remained the principal means by which northern people accessed state medical services – when the first 10-Year Plan was published in 1948, it had recommended a significant expansion in Native Authority responsibility for health. Many new NA dispensaries were built from 1948 to 1949, and the 10-Year Plan envisaged that Native Authorities would assume control of the district Health Centres that were central to the future expansion of basic healthcare. It proposed that 170 of these centres would be built by NAs (which were increasingly called 'Local Authorities' after 1948) across the Gold Coast, with the government to pay a 50 percent

34 For a discussion of rising anti-imperialism in Britain in this period, see Nicolas Owen, 'Critics of Empire in Britain', in *The Oxford History of the British Empire, Volume IV. The Twentieth Century*, ed. Judith M. Brown et al., (Oxford: Oxford University Press, 2001), 188-211.

35 NRG/8/13/11 (1949-57), Enc.63: DMS, NTs, to Asst. Director of Medical Services, Cape Coast, 5 August 1950.

36 Ibid., Enc.70: Circular from Asst. DMS, Tamale to NTs Medical Officers, 7 September 1950.

37 See Chapter 4 and NRG/8/13/16 (1949-1955), Encs.25-40: Correspondence between Chief Regional Officer, NTs, Ministry for Agriculture and Natural Resources, and Tsetse Control Dept., 1954-1955.

rebate of the construction costs.[38] Nurses trained by the Native Authorities were expected to take over from government's nurses in northern health centres, and new schemes were developed to accelerate the training of NA dressers, who worked in outlying villages – these dressers would receive 'instruction in the systematic treatment of yaws and trypanosomiasis, field sterilization, and home nursing'.[39] All local health services were to be passed to the Native or Local Authorities, and the central government's role would be to 'maintain professional standards, provide training facilities, to deal with major epidemic disease involving several authorities, to deal with the international aspects of disease transmission, and to provide grants-in-aid to local authorities for approved schemes'.[40]

This appeared to be a recognition of the success of NA health work over the preceding 15 years. But proposals for this wholesale transferral of health services to the north's Native Authorities were cancelled in the 1950s, as independence approached. The government had already placed constraints on the expansion of the north's NA dispensaries by refusing to re-open the Tamale Sanitary School, leading to recriminations from the Northern Territories administration, which argued that 'in all rural areas of the NTs, and also in urban areas the local authorities have for long been responsible for health services under the general supervision of the medical officers. Hence the department's inability to re-open the Tamale NA sanitary school is to be deplored'.[41] The school, which had been built collectively by Native Authorities using funds raised from northern communities, was eventually re-opened as a government

38 NRG/8/7/9 (1949-1951), Enc.2: 'Ten Year Plan for Hospital, Health and Nutrition Services', 6-7; 1949 MDAR, 7–8.
39 1947 MDAR, 10; 1949 MDAR, 7.
40 NRG/8/7/9 (1949-1951), Enc.2: Ten Year Plan for Hospital, Health and Nutrition Services. Subsection on Preventive Medicine, 9.
41 Ibid., Enc.21: Handwritten report from Assistant DMS and Chief Commissioner, NTs, 21 February 1949.

Health Education Centre in 1951.[42] By this time, however, a policy had been developed for centralising most medical training in southern institutions, following the argument that Native Authority health schools in the north were unable to provide training at a sufficiently advanced level.[43] The northern administration protested the relocation of training and educated personnel from the region itself, arguing that sending NA healthworkers to train in the south would undermine local health provision, as many might not return: 'Is it not right that a man should serve his own country, in his own place ... particularly in view of the fact that his local authority provided the funds for his education'.[44] This concern was not unfounded. Across the century, there was a tendency for northern medical personnel to remain in the south on completion of their training, where they earned more and had increased opportunities for private practice.

Despite protests by the northern administration, there was a growing view in Accra that the north's NA health staff lacked professional training, and that professionalism was more important than maintaining a consistent basic service in the region. The north's political and medical officers consistently pointed out that the local training which NA staff received had been approved by previous heads of the Medical Department, but they were arguing against a policy decision that had been taken by the Governor, with the support of the Secretary of State for the Colonies in London: 'training must be standardised and given at the larger hospitals, where full training facilities are available'.[45] In an attempt to prevent what the northern administration saw as a serious blow to rural health services, and a breach of trust with communities who

42 Ibid., Handwritten correspondence between Assistant DMS and Chief Commissioner, NTs, 25 October 1951.

43 See NRG/8/13/11 (1949-57), Enc.7: Cheverton, 'Observations on the Medical Department following a tour between November 1949 and April 1950', 40-50.

44 Ibid., Enc.65: 'Microscopists', Chief Commissioner, Northern Territories to Assistant DMS, 22 August 1950.

45 NRG/8/13/9 (1947-57) Rural Medical Services, PRAAD Tamale, Enc. 1: 'Rural Medical Services', letter from CC NTs to DMS Accra, 16 Sep 1947; ibid., Enc.2: Letter from DMS Accra to CC NTs, 26 September 1948.

had been induced to build facilities and fund training, officials unsuccessfully petitioned the Governor directly:

> The Director of Medical Services speaks of 'dressers who have not been sufficiently trained'. But our dressers receive 18 months training in accordance with what was agreed … We are at present working on the assumption that the policy laid down is to be implemented. The Native Authorities have drawn up schemes for the construction of dispensaries accordingly, and standard VII boys are being encouraged to take up medical training. I think we require an assurance that there is no suggestion that this policy is to be modified. I feel that [the DMS] does not realize the number of NA Dispensaries that are already in existence, and the plans that have been made for increasing them.[46]

The decision to centralise and standardise medical training may have been taken in an effort to improve healthcare across the Gold Coast, but in the north – where previous experience had shown that the broad provision of basic healthcare could be preferable to a more limited provision of expert care – it had the effect of undermining the region's most effective health system, the NA dispensaries. Although the dispensaries continued providing community health services into the 1950s, they were increasingly under-staffed. By 1952 there were 52 NA dispensaries in the north, but only 33 of them were still operational.[47]

A second debate, which revealed the shifts in political and economic priorities that characterised health provision over the independence transition, concerned the building of new government hospitals in the north. In 1950, in alliance with communities in the north-east, the Northern Territories government had resisted an attempt by the Accra government to close the Navrongo War Memorial hospital, built by the Native Authorities after the Great Depression with funds raised from surrounding communities. '[It is the policy] that the Navrongo War Memorial Hospital, built by the people of that area themselves in 1931, should be closed,' wrote the NTs

46 NRG/8/13/9 (1947-57), Enc. 4: Letter and supporting documentation from CC NTs to Colonial Secretary, 1 September 1947.
47 NRG/8/13/18 (1951-1964), Enc.18: NTs Dispensaries List, May 1952; 1952 MDAR, 22.

Chief Commissioner. 'Needless to say this Administration and the 140,000 people concerned have always vehemently opposed the idea ... I do not propose to close this institution when the Bolgatanga Hospital opens'.[48] Advocacy by the northern administration was successful, and the Navrongo War Memorial Hospital remained open. But as independence approached and the new African government at Accra sought to centralise control of public works, the development of additional hospitals or the refurbishment of existing facilities became a strongly contested subject.

Following the war, the northern administration and northern communities, through leaders including the *Na* of Mamprusi and the *Navro-Pio* of Navrongo, had consistently requested improvements to the region's hospitals, which for decades had been recognised as inferior to those in the south.[49] The 1951 Maude Commission had recommended multiple expansions and refurbishments to northern health facilities, and the Gold Coast's final Director of Medical Services, R.S. Cheverton, became a vocal advocate on this issue in Accra. In correspondence with other departments of the colonial administration, and with ministers of the first Nkrumah government, Cheverton argued that it was necessary to develop northern hospitals to a comparable level of quality with those elsewhere in the Gold Coast. He repeated and endorsed the concerns of northern officials, who suggested that a delay in expanding and refurbishing the hospital network would result in political unrest.[50] In 1951, following the publication of the Maude Commission's recommendations, and advocacy from the Gold Coast Medical Department, the African government at Accra at first appeared to recognise the importance of improving the north's hospitals. The Minister without

48 NRG/8/13/8 (1947-1954), Enc.5: 'Retention of Navrongo Hospital', Letter from CC NTs to Colonial Secretary, Accra, 25 May 1950.

49 See, for example, NRG/8/13/18 (1951-1964), 'A Memorandum by A. Adda, the Navropio and President of the Kassena-Nankani Native Authority, to Members of the Health Commission on behalf of the People of Navrongo', 19 April 1952.

50 NRG/8/13/8 (1947-1954), Enc.2: DMS Accra to GC Director of Public Works, Accra, 2nd July 1951; ibid., Enc.5: DMS Cheverton, to Minister for Health & Labour, 31 December 1951.

Portfolio J.A. Braimah, one of the only northerners in Nkrumah's first government, wrote to reassure the regional administration, proposing public works projects for nine hospitals in the north, and arguing that 'it is Government's avowed aim to apportion available medical facilities as equitably as possible to the needs of the various communities of the Gold Coast'.[51]

In the years leading up to independence, however, the Accra government's expenditure priorities shifted rapidly. As in the preceding decades, spending on northern healthcare was reduced in preference to cutting funds earmarked for similar work further south. In January 1952, following meetings in Tamale, the Ministry of Health and Labour had reaffirmed a commitment to develop multiple northern hospitals. But in July 1952 the ministry announced that it would only fund construction of a single new hospital in the region, saying 'little expectation can be placed on the diversion of funds from the Colony and Ashanti for building hospitals in the Northern Territories'.[52] Despite the Accra government's insistence on centralisation in other areas of health provision, which was then undermining the north's Native Authority healthcare system, the Minister for Health and Labour suggested that responsibility for finding a way around the shortfall in hospital funding lay with the northern administration, saying that he would consider 'any suggestions for provision of health facilities in the Northern Territories which would be both far simpler and far cheaper'.[53] The central government's indifferent attitude to the expansion of the region's hospitals – in the context of independence-era politics and antagonism between northern elites and Nkrumah's CPP – was further emphasised at a meeting held in Accra that year. At

51 NRG/8/13/11 (1949-57), Enc.88: K.A. Gbedemah, Secretary NTs, to J.A. Braimah, Minister without Portfolio, 12 May 1951.

52 NRG/8/13/8 (1947-1954), Enc.7: Minutes of the Meeting Held by the Minister for Health and Labour at Tamale, 24 January 1952; and Enc.9: Minister for Health & Labour to CRO, NTs, 28 July 1952.

53 Ibid., Enc.9: Minister for Health & Labour to CRO, NTs, 28 July 1952.

this meeting, representatives of the ministries of Communication and Works and of Health and Labour made clear that their aim was to identify savings that did not involve 'undue political repercussions', including funds intended for the expansion of northern hospitals. The government proposed that any expansion of physical healthcare facilities in the region should make use of cheaper, 'semi-permanent' materials. Some planned hospital developments in the north would still be funded, but only temporarily and for the benefit of international observers: 'The Minister responsible for Health and Labour pointed out that in view of the impending visit of the United Nations Mission, it was important to do some work … even though the intended full reconstruction of the hospital would have to be postponed'.[54]

These decisions drew a sharp response from the north's British administration, under Chief Regional Officer Thomas Mead, which now found itself in conflict with both British and African governments in Accra. In a striking example of the open criticism that had entered official correspondence between the north and Accra in the late colonial period, Mead warned that if plans to improve northern hospitals were shelved, the Gold Coast government 'must expect a very violent and justified reaction from the people of the Northern Territories'.[55] He added: 'I must protest against the implication that inferior standards are good enough for the people of the Northern Territories ... if the funds at our disposal are limited then I propose to use them to help a lot of people a little rather than a few people a lot,'[56] and argued that the government's plans to continue construction work on a single hospital, in advance of the United Nations visit, would do little except 'provide a handsome living for a contractor and a showy installation for the edification of tourists'. Mead concluded by

54 Ibid., Enc.11: Minutes of a Meeting held at the office of the Minister of Communications and Works, 9 July 1952.
55 Ibid., Enc.12: 'Hospitals in the Northern Territories', Mead to Minister for Health and Labour, 5 August 1952.
56 Ibid., Enc.12.

observing that communities in the north now regarded delays in the expansion of government healthcare 'with a certain cynicism and disgust'.[57]

In tandem with this criticism, officials in the north developed a detailed counter-proposal for the construction of new hospitals, using the same limited funding offered by the central government. The northern administration offered to build five new hospitals (at Bawku, Jirapa, Yendi, Navrongo and Wa) for a total cost of £285,000, using its own planners and labour force, and guaranteed that construction would begin by the end of 1952.[58] But these plans were again rebuffed in Accra, in favour of construction tenders awarded to private contractors based in the south. This was another development that characterised the transition to independence. As Britain looked to cut costs ahead of withdrawal, and as British control over the institutions of government receded, there was a concomitant increase in the involvement of private contractors in construction of healthcare facilities, offering new opportunities for patronage to political figures in the south. Mead's proposal for the northern administration to build hospitals had been developed after consultation with local engineers and medical officers, and approved by the north's Director of Public Works.[59] But the CPP government refused, insisting that any construction of northern healthcare facilities should instead be offered as contracts to private companies, with tendering to be handled by the Central Tender Board in Accra, and not by the Northern Territories Tender Board.[60] It argued that the Northern Territories administration lacked the capacity to manage a large public works budget. In response, Mead threatened to halt

57 Ibid.
58 Ibid., Enc.12: 'Hospitals in the Northern Territories', Mead to Minister for Health and Labour, 5 August 1952, 38; and Enc.16: 'New Hospitals in the Northern Territories', Mead, CRO NTs to Minister of Health & Labour, 22 September 1952.
59 Ibid., Enc.16.
60 Ibid., Encs.18 & 19: Telegram & Written notes from Ministry of Health & Labour to CRO, NTs, 7 November 1952; and Enc.20: Letter from A.J. Kerr, British Permanent Secretary at Ministry of Health & Labour, to CRO NTs, 16 November 1952.

all public works already managed by the administration, including road building and other major construction projects: 'in our official view we might, in view of the [Ministry of Communications and Works'] attitude, insist on divesting this regional organisation of all its public works responsibilities, which amount to vastly more per annum than these five hospital projects'.[61]

The debate over northern hospitals continued for more than a year, mobilising many of the north's remaining British medical and public works officials, with Thomas Mead as a central advocate.[62] The CPP government ultimately prevailed, and the northern administration was compelled to accept a policy of hospital construction through tenders offered in the south. Ministers in Accra suggested that unless private contractors could be used, it was possible that budgetary allocations for hospital development in the north would be 'indefinitely postponed', because funds were needed for the Volta River Project.[63] As in previous decades, healthcare in the north was subordinated to southern political and economic concerns. The Northern Territories government had presented a detailed and costed proposal for the development of new hospitals, supported by northern communities and traditional elites, and successive national health policies had emphasised the need for accelerated development of northern health facilities. As with the debate over Native Authority healthcare, however, this was not enough to overcome the centralising tendencies of British and African governments at Accra on the approach to independence, with CPP attitudes to the north perhaps also shaped by the resistance of northern elites to southern nationalism. The scope for independent action by the northern administration was

61 Ibid., Enc.21: Memorandum by Mead, 11 November 1952.
62 See also ibid., Enc.23: Mead to Ministry of Health & Labour, 29 November 1952; Enc.24, 'Construction of Northern Territories Hospitals', CRO NTs to Ministry of Public Works, 3 December 1952; Enc.2 p.6: Ministry of Communications & Works to Acting CRO NTs, 15 December 1952, and full file.
63 Ibid., Enc.22: Notes of a Meeting Held in the office of the Minister of Health, 5 November 1952.

increasingly limited by the requirement for private contracting, leading to 'interminable delays' in the growth of local health infrastructure.[64] The turn to private contractors accelerated across the Gold Coast from the late 1940s, benefiting European and African companies located in the south, close to the centres of political power, at the expense of healthcare projects that had previously been managed (relatively rapidly and affordably) by the regional administration. In 1948 the Gold Coast government awarded 49 contracts for major public works across the colony, worth £306,820. By 1951, the annual value of these contracts had more than trebled, to 102 private sector contracts worth £1,188,740, most of which were granted to European firms.[65]

Staff departures and decline in the 1950s

These debates over hospitals and the Native Authority dispensary system indicate the changing situation of the north and its healthcare in the context of decolonisation, and the complex position of the British officials who made up the Northern Territories administration.[66] These officials had already developed an adversarial relationship with the central British government of the Gold Coast over the preceding decades, and they now also found themselves in tension with the first African governments under Nkrumah and the CPP. Despite the CPP government's evident opposition to British colonialism, in this period it occupied broadly the same position in relation to northern healthcare as its predecessors: the region's administration continued to act as an advocate for the expansion of services, and greater allocations of state funding, against the perceived indifference of central government. But by the mid-

64 Ibid., Enc.7: Minutes of the Meeting Held by the Minister for Health and Labour at Tamale, 24 January 1952.

65 NRG/8/13/21 (1952-1955) Hospitals General, PRAAD Tamale, Enc.8: Statement by Minister of Communications & Works in response to Legislative Assembly Question 0/151, 17 April 1952.

66 From 1945 to 1957, there were several further healthcare-related confrontations between the north's officials and traditional elites, and the central government. See NRG/8/13/18 (1951-1964); NRG/8/13/9 (1947-57).

1950s, rapid changes in personnel meant that the administration's capacity for advocacy had diminished, and oversight of northern healthcare passed almost entirely to Accra and the Ministry of Health. As it became clear that the Gold Coast would be transferred to African rule, British officials began to retire from the colonial service, and as positions opened in the south these were often filled by the transfer of medical officers and trained African personnel from the north. By 1951 it was observed that 'the great wastage in trained staff' meant that some northern health programmes were no longer operable, and by 1953 even the most intensively-funded public health organisation in the region – the Tsetse Control Department, which answered directly to the Ministry of Agriculture in Accra – reported that it no longer had enough staff to operate effectively.[67]

In order to to try and attract personnel, it was proposed to shorten a tour of government medical service in the region to two years, instead of the four years required elsewhere in the colony.[68] But problems in the north received increasingly little attention, as they were superseded by a funding and staffing crisis for the colony as a whole. The total size of the Gold Coast health service was cut by 10 percent in 1953, and health expenditure as a percentage of total government spending fell from 10.5 percent in 1946 to 2.5 percent in 1954.[69] In 1955, most of the senior British medical personnel of the Gold Coast, and many junior staff, 'proceeded on leave prior to retirement'.[70] The sudden fall in staff and a concurrent reduction in British funding to the colony brought the shutdown of many pivotal public health programmes, including the Gold Coast's Malaria Control Unit. The Ministry of Health observed that it was

67 1952 MDAR, 14; NRG/8/13/9 (1947-57), p.33 Enc.16: Assistant DMS Waddy, Tamale, to CC NTs, Tamale, 15 December 1951; NRG/8/13/16 (1949-1955), Enc.23: Tsetse Control Department, Wa, to CRO NTs, 23 December 1953.

68 NRG/8/13/8 (1947-1954), Enc.7: Minutes of the Meeting held by the Minister for Health and Labour at Tamale, 24 January 1952.

69 1953 MDAR, 27, 87; 1954 MDAR, 40.

70 1955 MDAR, 15; Gocking, *History of Ghana*, 81–82.

'severely restricted in the matter of maintaining routine activities, and unable to deal adequately with the problems imposed by the activities of other ministries,' and reported that the cessation of routine sanitation work in the north had increased the spread of some diseases: 'Medical Officers of Health have all without exception noted the acute difficulty they are experiencing in maintaining any form of sanitary standards … let alone providing for improvements in general and environmental sanitation'.[71]

By the early 1950s there were acute drug shortages in the north, compared with other regions, a problem which would persist after independence; the Gold Coast's outgoing Director of Medical Services observed that this was 'not due to any lack of supplies available in Accra'.[72] Faced with the possible closure of hospitals in the south, ahead of the final pre-independence national election in 1956, the Ministry of Health temporarily suspended most of its proposed public health projects until after independence and began attempts to recruit medical personnel from other Commonwealth countries. The budget for health work was reduced from £11,000,000 to £1,000,000, with allocations to be reviewed 'in two to three years', in light of post-independence revenues from cocoa exports. No new hospitals or hospital extensions were to be built – by 1954, the expansion of district health centres in the north had already been made dependent on the generation of surplus revenues from the Cocoa Marketing Board, in preference to the diversion of funds earmarked for southern facilities: 'money is only available if Cocoa Marketing Board funds are made available to free health centre money from elsewhere'.[73] The Ministry of Health argued that the government should resist calls to cut spending on preventive campaigns, including against onchocerciasis in the north, but it accepted that preventive medicine of this kind

71 1954 MDAR, 40–41.
72 NRG/8/13/8 (1947-1954), Enc.8: Governor's Office to Navropio, Kassena-Nankani Native Authority, 3rd March 1953.
73 Ibid., Enc.15: Minutes, Northern Territories Hospitals Co-ordination Committee, 31 May 1954.

'might not be popular with the electorate'. As a result, an increasing proportion of funds were directed towards projects which might bring political rewards, including the reconstruction of Accra's central Korle Bu Hospital.[74]

The Medical Field Units

Beyond the cuts in funding for northern health services, and the rapid departure of medical staff – which created a gulf in institutional knowledge of northern disease and the arrangement of local health services – there were two additional developments that shaped northern healthcare over the independence transition and beyond: the entrenchment of church control over the provision of health services, and the creation of the Medical Field Units. The field units, still remembered by many northern communities as the 'MFUs', were a mobile rural medical service, and one of the north's most successful and enduring healthcare institutions. Like other innovations in the region, the service was developed contingently under conditions of economic and political marginality, with government funds unavailable for an expansion of fixed health services along the same lines as the south. In this case, the MFUs were created by diverting funding and personnel from the expansive campaign against epidemic sleeping sickness in the north, which dwarfed all other centrally-funded healthcare activities in the region during the 1930s, towards the provision of medical treatment and surveillance for a greatly expanded range of diseases.

In the late 1930s it became impossible to maintain sleeping sickness control through the quarantine camps alone, particularly after concurrent outbreaks of epidemic meningitis from 1939. Meningitis spread more extensively than sleeping sickness and incurred fatalities more rapidly, and by the late 1930s meningitis posed a greater threat

74 NRG/8/13/21 (1952-1955), Enc.16: Minutes, Conference of Principal Medical Officers, 15th June 1955.

to southwards labour migration. As a result personnel were transferred from the sleeping sickness treatment campaign to meningitis work, and many of the north's sleeping sickness camps were re-purposed for meningitis control.[75] In light of the difficulty in containing sleeping sickness infection through the camps, and in reaching rural populations for treatment, a mobile treatment campaign was launched in 1938, under the direction of B.B. Waddy, a medical officer with the northern administration. This comprised teams of African personnel – initially hospital nurses and urban sanitation workers trained in the south, but soon composed almost entirely of northerners, 'accustomed to working in primitive surroundings and familiar with local languages'.[76] Operating away from European supervision, these teams were able to access remote communities to monitor infection and supply sleeping sickness treatment, and were considered to have been highly effective, despite the difficult and sometimes dangerous nature of the work undertaken by the units' formally untrained personnel.[77] In 1938, for example, a single mobile team in the south Mamprusi district – made up of 'local NT boys of 3rd standard education, or illiterates', was able to examine almost 25,000 people for sleeping sickness, and treated more than 600 cases of the disease. In the same year, the Northern Territories' central sleeping sickness isolation camp at Nakpanduri treated 630 people, at far greater cost.[78] Part-financed by the region's Native Authorities, the new units were immediately endorsed by the

75 See CO/96/762 (1939); and CO/859/108 (1945).

76 GB/0809/v54.6 (1957), Waddy 'Cerebro-spinal Meningitis', 11; B. B. Waddy, 'Organization and Work of the Gold Coast Medical Field Units', *Transactions of the Royal Society of Tropical Medicine and Hygiene* 50, no. 4 (July 1956): 313–36.

77 Rural sleeping sickness control staff were at risk of accidental infection, and physical harm from patients in the terminal stages of the disease. See, for example, CSO/11/1/511 (1942) Accident to Bindya, Tryps worker, Med Dept, PRAAD Accra; CSO/11/1/512 (1942) Allan Wangara, Tryps campaign, PRAAD Accra.

78 1938-1939 NTAR, 50–52; 1938-1939 MDAR, 6.

northern administration as a way of effectively using its low budget allocations, and of circumventing delays in the expansion of fixed medical facilities.[79]

By 1950, the Medical Department considered that human sleeping sickness was 'virtually under control', but the administration elected to retain and extend the northern mobile units that had been created under the campaign.[80] In 1947 these had been merged with a smaller set of mobile units also operating in the region, which had previously been focused on treating yaws.[81] In 1950 the combined outfit was redesignated as the 'Medical Field Units', and its remit was greatly expanded. The number of field units was more than doubled, and they were tasked with monitoring and treating practically all of the north's principal diseases, including meningitis, onchocerciasis, guinea worm, tuberculosis, yaws, leprosy, malaria, smallpox, bilharzia, hookworm, and malnutrition. By 1957, the Gold Coast's Director of Medical Services argued that the north's MFUs were 'of greater service to the community than any hospital, however large.'[82] Like the 'Village Volunteers' and Guinea Worm Eradication Programme of the 1990s (see Chapter 6), the Medical Field Units give an example of how long-lived medical institutions in the north were sometimes developed through contingent responses to occasional epidemics, which brought temporarily increased allocations of funding, rather than through any systemic programme to improve the region's healthcare institutions. The MFUs were created in response to a sleeping sickness epidemic that overwhelmed the meagre formal medical infrastructure of the north, and were maintained because they were effective in reaching northern peoples that had previously been unattended by the colonial medical system. As much as the units were a success, they also demonstrated the ongoing marginality of the region, and

79 1938-1939 NTAR, 50.
80 NRG/8/13/11 (1949-57), Enc.7: Cheverton, 'Observations on the Medical Department between November 1949 and April 1950', 49-51.
81 1947 MDAR, 5.
82 NRG/8/13/11 (1949-57), Enc.7: Cheverton, 'Observations on the Medical Department', 48-49.

the failure of the British administration, over five decades, to develop comparable healthcare institutions to those which it had created in the more remunerative districts of the south.

At the end of colonial rule, the MFUs were the only accessible source of state-sponsored medicine for many northerners, and this remained the case well into the independence era. They remained a central element of the northern healthcare system into the early 1980s, when the units were disbanded following the turn to structural adjustment and a large-scale reorganisation of health services implemented by the Rawlings government.[83] In addition to their effect as providers of front-line treatment to rural communities, the MFU staff functioned as a crucial ark of information and medical skills across the independence divide, when knowledge of the north's health problems was often lost as British medical staff left the Gold Coast, and when formally trained southern medics refused to take up posts north of Kumasi. Dr Sam Bugri, who became the Regional Director of Health Services at Tamale in 1984, recalled that in the decades after independence, new doctors had relied on the staff of the MFUs to learn lumbar puncture techniques, to test for epidemic meningitis in the field:

> We had a team they called the Medical Field Units – they started way back in the colonial times ... They were focused on the North, and they were well trained. I learned how to do lumbar puncture from them, not from medical school. I was so much interested in their kind of work – how they went from village to village. They could screen a village within a short period for any diseases that you want. When we were having these meningitis epidemics, we had a feeling that there were very few doctors who are comfortable with doing lumbar puncture. So we insisted to make sure that all the doctors in the field would see this. And these Medical Field Unit people, they were not highly educated. But they taught them how to do it safely, and very very accurately – and they did it with ease.[84]

83 Dr Sam Bugri, Interview, Tamale, 30 June 2015.
84 Ibid.

Across five decades, spanning political upheavals and shifting state priorities, the widely-remembered work of the MFUs stands as something of a testament to the role played by a group of 'uneducated' northerners, operating away from regular supervision by the formal healthcare system, in shaping the region's public health.

Independence-era expediency: missions and northern medical services

The long-term relationship between missions and government health institutions has arguably been under-researched by historians of Africa, although other aspects of missionary medicine have received a great deal of attention. For northern Ghana, most prior historical scholarship, particularly on the colonial period, has focused on the role of particular missions in northern education, and less attention has been given to the development of church-led healthcare.[85] In part this is because the entry of missionary groups into northern healthcare was delayed in comparison to other parts of colonial Africa. Bruce Fetter suggests that Christian missions 'provided the bulk of western medical care for rural Africans' under colonial rule, but this was not the case in the Gold Coast.[86] Here, even in the southern colony there were few large mission health facilities until 1930, when the Agogo Hospital was built by the Basel Mission in Ashanti.[87] The absence of mission groups was particularly pronounced in the Northern Territories, where for several decades after the region's incorporation into the Gold Coast, the colonial government maintained a policy of preventing missions from establishing outposts and providing services like healthcare or education.[88] From 1902

85 For research on mission education in the north, see Benedict Der, 'Christian Missions and the Expansion of Western Education in Northern Ghana, 1906-1975', in Saaka, *Regionalism and Public Policy,* ch.6; Thomas, 'Education in Northern Ghana'.
86 Fetter, 'Health Care in Twentieth Century Africa', 13.
87 See Arhinful, 'Health Care In Ghana', 47–48.
88 For a discussion see R. Bagulo Bening, 'Internal Colonial Boundary Problems of the Gold Coast, 1907-1951', *International Journal of African Historical Studies* 17, no. 1 (1984): 81–99; Thomas, 'Education in Northern Ghana'.

to 1931, the only group to establish and maintain a presence in the region was the French Society of Missionaries of Africa, or 'White Fathers', which was given permission to build a base at Navrongo in 1906, after accepting government restrictions on its educational work.[89] Other churches entered the north from the 1930s, when restrictions on education and proselytisation were relaxed, including the Basel Mission, the Assemblies of God, and the Worldwide Evangelization Crusade Mission.[90] But the White Fathers (and Catholicism as a denomination) remained the dominant mission group throughout the colonial period and into the independence era. Although the White Fathers had by 1929 established several church outposts among Dagaare communities in the north-west, and in the Navrongo district in the north-east, their involvement in northern healthcare had remained relatively minor, apart from the provision of limited clinical services at the missions themselves. This stood in stark contrast to the group's health work elsewhere in colonial Africa. In 1911, for example, the White Fathers reported that they operated 289 hospitals and dispensaries across French and British East Africa, treating over 1.2 million people that year.[91]

The first significant involvement of missions in the provision of northern healthcare came in 1930, when the White Fathers established a leper hospital at Navrongo, supported by the regional administration.[92] As government health services contracted following the Great Depression, missions were given increased scope for the provision of basic medical services, and a number of small clinics and treatment centres were established in mission districts. The involvement of missions in northern healthcare still remained relatively limited until after the war. But as independence

89 Der, 'Christian Missions', 108; Thomas, 'Education in Northern Ghana', 460.
90 Der, 'Christian Missions', 107–10; Brukum, 'Northern Territories under British Rule', 237–55.
91 Charles M. Good, 'Pioneer medical missions in colonial Africa', *Social Science and Medicine* 32 (1991): 5.
92 1930-31 MDAR, Appendix D, 'Report on Leprosy Survey & Investigation'; 1932-1933 MDAR, 21; 1930-1931 NTAR, 2–4.

became increasingly likely, and the colonial government looked for ways to maintain northern health services without additional spending commitments, the north's missions became central to government policy. In the late 1940s, the Gold Coast government proposed a far-reaching transfer of medical authority to church groups, including the hand-over of some existing northern government hospitals to mission control. These included the Navrongo War Memorial hospital, built and maintained with funds raised from local communities. Operational control was given to the White Fathers, and the hospital was rebuilt closer to the mission itself.[93] In addition to the handover of hospitals and other facilities, the Medical Department proposed that broad areas of what was then called 'social medicine', including infant and maternal welfare and general preventative medicine, would in future be the responsibility of the British Red Cross and the missions. The proposals were subsequently approved by the Maude Commission, and broadly accepted by the first Nkrumah government in 1952.[94]

The number of mission-managed hospitals increased rapidly, from three in 1951 to 27 in 1960, with most located in the north, Ashanti, and the eastern Volta region.[95] Of the first nine mission groups identified as candidates to take over government health services in 1950, six were located in the north.[96] The handover of government facilities to mission control appears to have been seen as a way of reducing government spending commitments, including funds intended for the renovation and expansion of northern hospitals, while simultaneously attempting to maintain staffing

93 NRG/8/13/11 (1949-57), Enc.31: 'Financial Assistance to the Roman Catholic Mission in the Northern Territories', report from DMS Accra to CC NTs, 11 December 1950.; and Enc.32: Memorandum from Gerald Bertrand, Bishop of Tamale, to DMS Accra, 22 June 1950.

94 See Barbra Mann Wall, *Into Africa: A Transnational History of Catholic Medical Missions and Social Change*, (New York: Rutgers University Press, 2015), ch.2.

95 NRG/8/7/9 (1949-1951), Enc.2: Ten Year Plan for Hospital, Health and Nutrition Services. Subsection on Social Medicine, 13; Arhinful, 'Health Care In Ghana', 27–35.

96 NRG/8/13/11 (1949-57), Enc.11: 'Assistance to Voluntary Agencies', report from DMS Cheverton, 24 April 1950.

levels as British personnel departed.[97] Agreements were made for the handover of government hospitals at Navrongo, Bawku, Nandom and Jirapa. These became 'Joint Hospitals', managed, staffed and part-funded by international mission groups, with government supplying a grant-in-aid to cover expenditures on medicine and materials. Although government ostensibly retained ultimate control over the facilities, with the ability to reassert control over a hospital if standards were not maintained, in practice the policy appears to have vested a great deal of authority with the missions, allowing them to resist government takeover. Joint hospitals were overseen by a management committee designed to have either a 'Catholic majority', or an equal number of mission and government representatives, with an additional representative from the hospital's local Native Authority. In the case of Jirapa Hospital, for example, the first management committee comprised the Bishop of Tamale, the Mother and Father Superiors of Jirapa, a representative of the Jirapa Native Authority, and three British medical officers.[98] In some cases the handover policies appear to have been formulated by northern mission groups themselves, and adopted with little modification by the government at Accra.[99] The pre-independence Nkrumah government assured the White Fathers that it was extremely unlikely that it would seek to reclaim former government facilities, and that in any event this could only be done by agreement of the hospital management committees.[100]

Mission control of northern health services expanded as independence approached and new church groups entered the region. In 1954, for example, the

97 See ibid., and Enc.31: 'Financial Assistance to the Roman Catholic Mission in the Northern Territories', report from R.S. Cheverton to Chief Commissioner NTs, 11 December 1950.

98 NRG/8/13/8 (1947-1954), Enc. 9: 'Notes of the Main Points which arose in the meeting at Tamale', Ministry of Health & Labour to CC NTs, 9 July 1951.

99 See, for example, ibid., Enc.9 and Enc.10: 'Statement of the Principles regulating financial assistance to be given by Government to Voluntary agencies undertaking medical work', from Ministry of Health and Labour to CC NTs, July 1951.

100 Ibid., Enc.7: Minutes of the Meeting held by the Minister for Health and Labour at Tamale, 24 January 1952.

American Baptists applied to open a new health centre at Nalerigu, the Ewe Presbyterians applied to take over Yendi hospital, and the Basel Mission applied to take over Bawku hospital. The Ministry of Health proposed that mission doctors should assume control of government dispensaries in the north-west, and Native or Local Authority rural dressing stations across the north.[101] By this stage, mission healthcare had supplanted or become integrated with Native Authority health services in many districts. As the Native Authority system declined in the early 1950s, through staff shortages and the centralisation of training in Accra, mission groups – able to independently recruit trained staff – filled the gap as a matter of government policy. Native Authorities, which had formerly operated the north's most extensive rural healthcare network, now paid grants to missions out of the taxes they raised from local communities. Some districts were only served by mission health services. In Nandom, for example, by 1954 there was no longer any direct government or Native Authority involvement in healthcare. Medical facilities were operated by the White Sisters Mission, which reported that it was treating approximately 10,000 outpatients a month, part-funded both by government and by the Local Authority. The mission employed African, French and Canadian medical personnel; it was able to directly approach the Ministry of Health in Accra to request increases in government funding and the expansion of its activities, without consulting the northern administration.[102]

This was an indication of the ongoing centralisation of healthcare by this point, and also of a new dynamic which would become increasingly apparent in the decades after independence: the increasing scope for missions, NGOs and other

101 NRG/8/13/21 (1952-1955), Enc.15: Minutes of the Northern Territories Hospitals Co-ordination Committee, 31 May 1954.

102 NRG/8/13/26 (1953-1960) Local Authority Health Services General, PRAAD Tamale, Enc.9: 'White Sisters Dispensary And Clinic Nandom', Government Agent to CRO, Tamale, 31 May 54; and Enc.10: Mother Superior M. Isaac Jogues to Permanent Secretary, Ministry of Health Accra, 10 May 1954.

international organisations, with access to central government, to shape northern healthcare without direct reference to local medical or political officials, or community preferences. The expansion of mission healthcare was nevertheless clearly welcomed by some northern communities, particularly as government health services declined in the years immediately before independence. In 1956, the Nandom *Na* wrote an excoriating letter to the Minister of Health and Northern Territories Council, emphasising the decline in government medical services and loss of the community's Native Authority facilities, and revealing the extent to which mission healthcare had won local support. Instead of being seen as a planned extension of government healthcare by other means, the mission clinics were viewed as an alternative and superior provider:

> The demand for a Health Centre for this area is not new; and local endeavours to procure these amenities confirm the statement. Namely, a dispensary was built by the sweat of the people. This worked wonderfully well for a short time but collapsed. Why? Not that all the sick people were cured, not that all the diseases were repelled from the area: but that there was no staff to manage the Dispensary and so self-help became ineffectual. My people and I have seen and have repeatedly pointed out the urgent needs of our community ... We built a small Maternity Clinic also by our sweat, with the firm hope that Government will be considerate this time. Indeed this too became but one of the biggest dreams imaginable. Again help was not forthcoming, yet the need was becoming one of a stressed urgency. We had to find a way out. It was at this juncture that the Nandom Local Council took decision and handed over to the White Sisters through the kind permission of His Lordship The Bishop of Tamale, the duties and management of the Dispensary and the Maternity Clinic, with an annual grant of Two Hundred Pounds from the Local Council. It is sometimes good to flatter. But in a situation like ours flattery would be out of the question. We must face facts now. Let us examine the statistics for this year, and see for ourselves whether the White Sisters are not bravely facing the needs of the Government's People ... Is it not shameful to say that what the Government cannot do, an independent body like the Mission can?[103]

For the north, policies promoted by colonial and African governments in the early 1950s vested a significant degree of public health authority with Christian

103 NRG/8/13/9 (1947-57), Enc.35: Letter from Nandom Na to Ministry of Health and Chairman, NTs Council, 26th September 1956.

churches and international mission groups. This shifted a financial and operational burden from government whilst simultaneously increasing the temporal power of northern churches – boosting their political, economic, and social influence in communities where they became state-supported gatekeepers to life-saving drugs and treatments. Although the handover of government or NA facilities took place across the Gold Coast, it was particularly extensive in the north, where the government healthcare system was relatively underdeveloped and missions could make a compelling argument for the takeover of facilities. For better or worse, decisions taken at this point in the independence transition have had an enduring influence on the arrangement of healthcare in the north, and in Ghana as a whole. Over the following decades, many major public health projects in the north were overseen by churches, who became allied in pan-denominational health organisations like the Christian Health Association of Ghana (CHAG), founded in 1967.[104]

At times northern churches and their medical facilities functioned as a collaborative extension of government healthcare – for example in the integrated government/church Bawku District Medical Programme, a community health network run by the White Fathers and the Ghana government's Christian Health Commission in the 1970s.[105] More generally, however, church-run medicine supplanted or was given control over local institutions that had previously been part of the state healthcare system. When the Medical Field Units were finally shelved as a northern healthcare institution during the structural adjustment reforms of the 1980s, for example, they were partially replaced by Mission Mobile Clinics intended to fulfil the same purpose,

104 See Arhinful, 'Health Care In Ghana', 48.

105 WHO/P9/445/8/GHA (1973-1975) Study on community involvement in solving local health problems, Ghana, WHO Geneva, Correspondence between Ghana Christian Health Commission and WHO, May 1974, 90-93.

but no longer as directly accountable to government or the electorate.[106] Churches were given permission to directly import pharmaceuticals and other medical supplies, through bodies like the Catholic Drug Centre, although their choices of drugs at times conflicted with the advice of health officials regarding the control of particular diseases, or the avoidance of antibiotic resistance.[107] By the year 2000, mission groups represented by the Christian Health Association of Ghana were the largest providers of health services after the government, operating 128 major health facilities including 49 hospitals across Ghana, with 80 percent of the salaries of church medical workers paid by the state.[108]

Church groups played an ambiguous role in northern healthcare over the century. They were evidently embraced by some communities, and at times they provided health services in areas that lay beyond the reach or inclination of the Accra government.[109] As Giovanni Carbone has described, churches were also instrumental in establishing Ghana's first mutual health insurance schemes in the 1990s, which were adopted as a model for the state financing of public health in 2003.[110] But the mutually constitutive expansion of medical services and Christianity, in Ghana as a whole, is a subject which deserves further study.[111] The state's conferral of medical power on churches steadily increased their broader influence, and this influence made it increasingly difficult to rescind decisions first taken in the 1950s. At times, prevalent Christianity even had a direct religious influence on government health services. In the

106 WHO/JCP Volumes/5-6 (1980-85) 'Socioeconomic Development In The Areas Freed From Onchocerciasis In Ghana': Report From the Onchocerciasis Control Programme in the Volta Basin Area, 1984, WHO Geneva, 5–9.

107 See, for example, PD/152/v2 (1996) Importation of drugs, PRAAD Accra, Encs.1-3: Correspondence between National Catholic Secretariat & Catholic Drug Centre, and Ministry of Health Accra, August 1995.

108 Arhinful, 'Health Care In Ghana', 48; and see PD/152/v2 (1996).

109 For observations about community support for mission healthcare in northern Ghana in the 1990s, see Bierlich, *The Problem of Money*, 101–3.

110 Carbone, 'Democratic Demands', 397.

111 The provision of grants-in-aid to mission groups has also been part of health policy in a number of other independent African states. See Good, 'Pioneer medical missions in colonial Africa', 1–3.

1970s, for example, mid-level Ghanaian health officials of all religions were sent Ministry of Health memoranda listing quotations from scripture, entreating them not to act like the Kings of the Gentiles, or to follow the teachings of Luke and Matthew.[112] As Carola Lentz and Benedict Der have argued with regard to Catholic mission education in the north, the government's ceding of services to missions allowed them to accumulate a far-reaching political influence.[113] A former regional director of northern health services observed that when he attempted to expand direct government health provision in one district in the 1990s, he was unable to build state facilities in areas where missions had assumed control of health services.[114]

This was the broad situation for northern healthcare at independence in 1957. An exodus of staff and cuts in funding from Britain meant that proposed health spending under the Nkrumah government's Second Development Plan was shelved until after the transition. The years immediately before independence saw significant cut-backs in central government funding for northern hospitals and other physical health facilities, and for some preventive campaigns. There was a concurrent transferral of authority for northern healthcare to church groups, primarily the White Fathers and other Catholic bodies, which would have far-reaching effects in the decades after independence. The period also saw the decline of the Native Authority health system, and the creation of the Medical Field Units, which for the next thirty years became the state's central means of providing health services to many rural northern communities. Despite sustained and vociferous advocacy from officials in the Northern Territories administration, over more than twenty years from the early 1930s, northern healthcare

112 PD/65/v2 Box 27/02/02735 (1972-1981) Health Centres, PRAAD Accra, Enc.6: 'Basic Health Services', Memorandum from Ministry of Health, 13 April 1973.
113 Lentz, *Ethnicity*, 174; Der, 'Christian Missions', 127.
114 Dr Sam Bugri, Interview, Tamale, 30 June 2015.

at independence remained a function of the region's peripheral situation in the Gold Coast economy, and in the new state of Ghana.

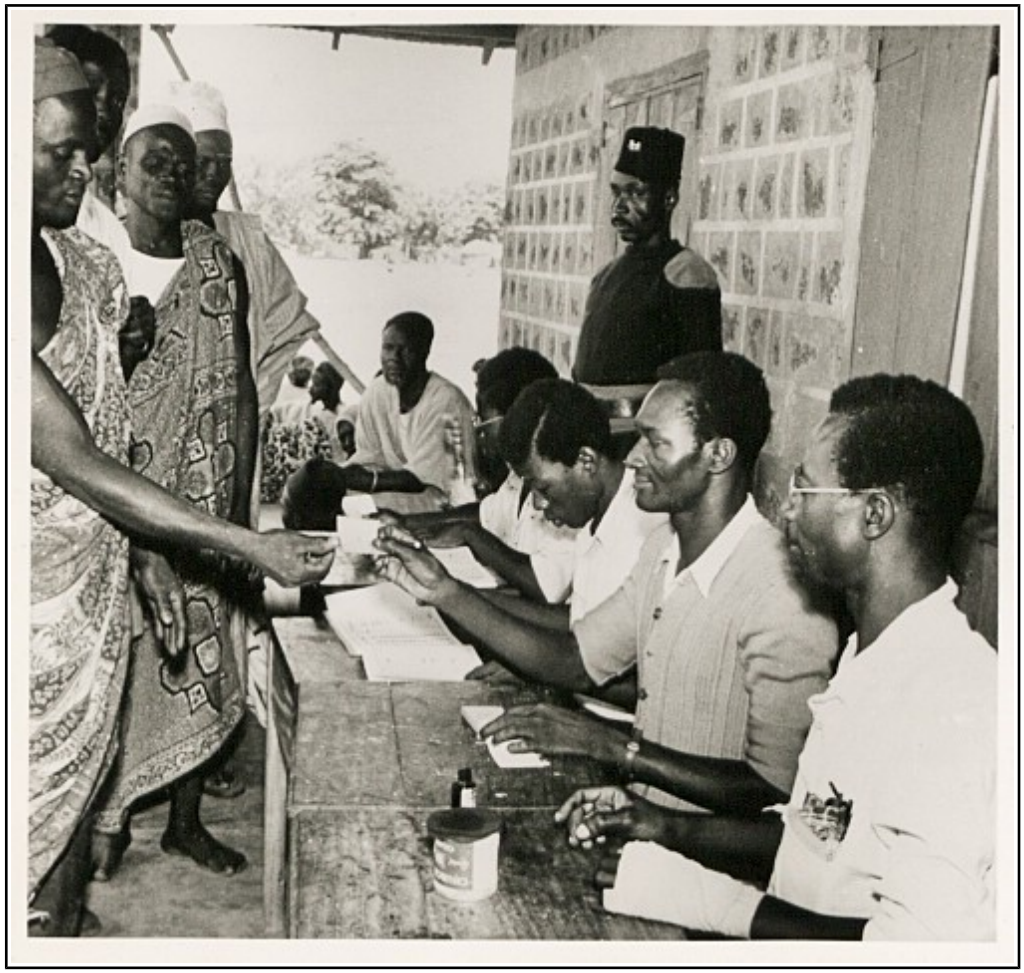

Figure 16. Kungungu Polling Station in the Northern Territories, election day July 1956
Source: TNA, Colonial Office photographic collection CO 1069-53-74

Part 2. Northern health and the Nkrumah government: new policies, new priorities, new results?

Health policy and Ghana's economy

With a decisive majority in parliament, Kwame Nkrumah made improved healthcare a central aim of Ghana's first government, following full independence in March 1957. At his Christmas broadcast that year, Nkrumah said:

> My first objective is to abolish from Ghana poverty, ignorance and disease. We shall measure our progress by the improvement in the health of our people; by the number of children in school and the quality of their education; by the availability of water and electricity in our towns and villages … The welfare of our people is our chief pride and it is by this that my Government will ask to be judged.[115]

Nkrumah's welfare policies have been well-studied at the national level. The CPP government set out to create a socialised health service on the British model, funded by general taxation instead of direct charges at medical facilities.[116] Fees for drugs and outpatient health services were abolished, private practice was prohibited in government hospitals, and from 1961 all medical staff employed by government were forbidden to charge for services provided away from state facilities.[117] District health centres were built across the country, with 46 in operation by 1965, and several new hospitals were built in the south. A national medical school was established at the University of Ghana in 1962, contributing to a rapid expansion in the number of private medical practitioners across Ghana, and Nkrumah began efforts to integrate traditional healers into the national health system.[118] From 1964, the CPP government also oversaw a policy shift towards the new paradigm of 'community health', promoted

115 Nkrumah, quoted in Gilford Ashitey, *Disease Control in Ghana: An Inaugural Lecture Delivered at the University of Ghana, Legon, 17 January 1991* (Accra: University of Ghana Press, 1994), 30.
116 See Carbone, 'Democratic Demands', 387–94.
117 Arhinful, 'Health Care In Ghana', 49–50.
118 See WHO/S10/372/2/GHA/6 (1965) UNSF Establishment of a Community Health Project, WHO Geneva, Enc.1: 'WHO Consultant Report on Ghana under EPTA program', 10-20; Agyei-Mensah and de-Graft Aikins, 'Epidemiological Transition', 886; Arhinful, 'Health Care In Ghana', 48–49.

internationally by the World Health Organisation, emphasising basic rural health care and preventive medicine.[119] These changes were part of Ghana's health- and welfare-focused 'Second Development Plan', devised by the CPP and British Gold Coast governments before independence, but postponed due to low funds and the exodus of administrative staff in the early 1950s. After independence the state initially directed much of Ghana's total tax revenues towards fulfilment of the plan, on the premise that spending on health and welfare would boost economic growth.[120]

From 1961, however, there was a turn away from perceived British influence on Ghana's state policy, and the healthcare programmes of the Second Development Plan were largely abandoned. As Roger Gocking has discussed, the Nkrumah government developed increasingly strong links with the centrally-planned states of the Eastern Bloc, and enlisted the aid of eastern European economists in the development of a new national 'Programme for Work and Happiness', intended to bring about the 'socialist transformation of the economy and the complete eradication of its colonial structures'.[121] Peter Sederburg has calculated that during the last five years of the Nkrumah presidency, Ghana's ratio of capital to current expenditure was at least double that of any year during the colonial period.[122] As the state spent intensively in an effort to meet its public welfare commitments, it faced increasing shortfalls in revenue, which were passed on in cuts to the provision of some health services, particularly the purchasing of imported drugs and the construction of rural health posts – in 1965 there were only eight functional health posts, out of 250 that had been planned.[123] Budgetary shortfalls increased starkly after 1964, when the international cocoa price collapsed

119 WHO/S10/372/2/GHA/6 (1965), Enc.1: 'WHO Consultant Report on Ghana under EPTA program', 10-20; WHO/AFR/EXT/16 (1967) Report on a Visit to Ghana by Dr J. Vysohild, Regional WHO Adviser, 31 March 1967, WHO Geneva, 30–50; Carbone, 'Democratic Demands', 387–89.
120 See NRG/8/7/27 (1955-1964) Ghana Development Plan 1959-64, PRAAD Tamale.
121 Gocking, *History of Ghana*, 134–40.
122 Sederberg, 'The Gold Coast under Colonial Rule', 195.
123 WHO/S10/372/2/GHA/6 (1965), Enc.1: WHO Consultant Report 1965, 18.

following a bumper harvest across West Africa, at a time when cocoa made up more than 50 percent of Ghana's total export earnings.

Björn Beckman has argued that problems in the cocoa economy also stemmed from the initial success of the government's welfare programmes, which had begun to reduce some of the disparity between north and south. The good salaries paid to government employees drove wages up across the Ghana economy, reducing the revenues earned by the government from cocoa production, while improvements in education, health provision and agricultural development in the rural north initially reduced the flow of low-paid northern migrants to the southern cocoa fields.[124] But although the total size of Ghana's health service increased over the early Nkrumah years from 1957 to 1961, particularly in the aggregate number of physical facilities, there was still a strong southern bias. Most healthcare initiatives were focused on urban populations and the southern cocoa-growing areas – WHO personnel in Ghana reported that the distribution of national health monitoring systems gave the government an idea of health needs 'in the better-off parts of the country', but little awareness of what was happening on its periphery.[125] As I discuss below, this meant that northern health officials were sometimes required to spend time on centrally-mandated public health initiatives that had little relevance to rural communities or regional health problems. When international bodies offered funding and personnel to promote rural health development, as the WHO did in 1965, for example, they were often encouraged to focus their attention on the cocoa-growing areas.[126]

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124 Björn Beckman, *Organising the Farmers: Cocoa Politics and National Development in Ghana.* (Uppsala: Scandinavian Institute of African Studies, 1976), ch.7; and see Dwayne Woods, 'Predatory Elites, Rents and Cocoa: A Comparative Analysis of Ghana and Ivory Coast', *Commonwealth & Comparative Politics* 42, no. 2 (2004): 233.

125 WHO/S10/372/2/GHA/6 (1965), Enc.1: WHO Consultant Report 1965, 5-20; Carbone, 'Democratic Demands', 387–90.

126 WHO/S10/372/2/GHA/6 (1965), Enc.1: WHO Consultant Report 1965, 19.

Staffing Ghana's public health system in the independence era

From the early 1960s, falling state revenues affected the employment conditions of government doctors. With extremely heavy workloads in state facilities, and prohibited from engaging in lucrative private practice, the doctors became increasingly disaffected with the CPP government.[127] In 1965, shortly before the coup which deposed Nkrumah, the World Health Organisation estimated that it would take more than fifty years before Ghana was able to train enough doctors and specialists to adequately meet its own rising health needs. A WHO consultant employed to assess community health reported that 'an ordinary doctor may see between 100 and 150 patients in a working day, in addition to any emergency work that he is called upon to perform day and night. A doctor in such condition is unable to give any of his best to the sick, and is certainly in no position to undertake any preventive or health promotion activity in the community'.[128] The staffing crisis which had developed before independence persisted into the Nkrumah era, despite the expansion in Ghana's local capacity for medical training. In 1960 there were fewer than 450 doctors working in the country, serving a population of seven million people. By 1966 there were 597 doctors, almost half of whom were employed in private practice, and only 228 of whom were Ghanaian.[129] In part this was because of an extremely high emigration rate among Ghanaians who travelled overseas to receive medical training. From 1960 to 1966, only 38 percent of Ghanaians who went abroad on medical scholarships returned to Ghana at the end of their courses. The proportion who remained overseas increased as Ghana's economy faltered, and in 1965 and 1966, of 131 medical graduates who were expected to return to government service after qualifying, only 34 came back.[130]

127 Arhinful, 'Health Care In Ghana', 50–51.
128 WHO/S10/372/2/GHA/6 (1965), Enc.1, WHO Consultant Report 1965, 14.
129 Calculated from ibid., 14-21; WHO/AFR/EXT/16 (1967), 30–40.
130 WHO/AFR/EXT/16 (1967), 34.

While funds were still available, Ghana recruited large numbers of foreign doctors to make up for shortfalls in local staff, in an attempt to match the continued expansion of physical health facilities under the Second Development Plan: where staff could not be found, buildings were left empty. From 1957 to 1962, the Nkrumah government recruited from Britain and its former colonies, employing a permanent representative in London to make the case for health work in Ghana. An exchange of letters in the *British Medical Journal* reveals the debates that took place about the employment of British doctors. From 1959 to 1962, C. Belfield Clarke, the Ghana Ministry of Health's representative in London, called for applicants through the *BMJ*. His requests, couched in the idiom of the colonial era, attempted to allay prejudices about the changed political landscape, about expatriate employees from other states (including an increasing number of doctors from Eastern Europe), and about the solvency of the Ghanaian state:

> No longer can the country be called 'the white man's grave', neither is it any longer 'the white man's burden'. I can confidently recommend doctors in the United Kingdom to take up posts in the rapidly expanding Medical Service in Ghana … They will be able to assist Ghana in its efforts to become the leading democratic country in 'Africa'. The country is compact, with a population of only five million and a considerable sterling balance, and every prospect of becoming a stable, prosperous country. We are not seeking 'misfits'.[131]

Belfield Clarke assured applicants that they would find all British conveniences: 'Dinner in one of the University of Ghana halls combines the dignity of an Oxford or Cambridge college with the gaiety and colour of modern tropical buildings'.[132] During a sustained correspondence with the *BMJ*, he was at pains to demonstrate continued British influence on Ghana's health system: downplaying the extent of nationalism, and to some extent Ghana's independence itself:

131 C. Belfield Clarke, 'Correspondence - Ghana Medical Service II', *British Medical Journal* 2, no. 5158 (14 November 1959): 1024.
132 Ibid.

> The expanding medical service in Ghana which we are building is founded on the British system of medicine introduced by the Colonial Office while Ghana was still the Gold Coast. All the tradition of medicine is therefore British. Ghana is devoted to the idea of the Commonwealth, and this devotion extends to the masses of the people, as was demonstrated most clearly by the enthusiasm with which the masses all over Ghana greeted the Queen and the Duke of Edinburgh on the recent Royal Tour ...Ghana is anxious that the British tradition should be maintained and that the medical school shall be Ghanaian and not an importation from a foreign country. The Ghana Medical Association is affiliated to the parent body, the British Medical Association, and mutual benefits will flow from this affiliation. I hope that medicine in the United Kingdom will respond to this appeal.[133]

Several former Gold Coast medical practitioners replied to these requests to warn new doctors away – their responses perhaps reflected the sentiment of some colonial-era medics at the transition to African rule. For example:

> I feel strongly that it can only be recommended with considerable reservations. For instance, one must be prepared to arrive back from leave to that democratic country and find one's house occupied by someone else and notice to be in another centre in two days' time. These two days, of course, are fully occupied trying to recover one's possessions. Many more inconveniences and frustrations could be cited ... this letter is not one of 'sour grapes'.[134]

Some British correspondents enthused about work in Ghana on the grounds that it would improve their employability after gaining experience on African patients, referred to using the euphemistic medical term ‘clinical material’. For example: ‘The clinical material was impressive in both variety and nature and, of course, provided much in the way of tropical diseases. But it was not only the tropical picture that focused one's interest: a traffic problem on inadequate roads is responsible for many accidents’.[135] Others argued that it was a duty for British doctors to aid Ghana as an ex-

133 Report, ‘Medicine and Surgery in the Commonwealth’, *British Medical Journal* 1, no. 5276 (24 February 1962): 551.

134 D.G. Young, ‘Correspondence - Ghana Medical Service III’, *British Medical Journal* 2, no. 5161 (5 December 1959): 1254–55.

135 H. Jackson, ‘Correspondence - Ghana Medical Service II’, *British Medical Journal* 1, no. 5165 (2 January 1960): 60; D.H. Barham, ‘Correspondence - Health in Ghana IV’, *British Medical Journal* 2, no. 5312 (27 October 1962): 1125.

colony, as it sought ‘to build a health service comparable to the one in the United Kingdom’.[136]

One of the British doctors who wrote to the *BMJ* to sound a note of caution was already working in Ghana, in the north. P.R. Richards, a young doctor who had been one of the last intake of conscripts under Britain’s post-war National Service laws, and who had volunteered to work in Tamale, argued against doctors travelling to Ghana only for the sake of gaining experience. He indicated the state of northern medical services at the region’s most developed hospital:

> The frustrations of not having modern drugs and ancillary aids readily available are just as bad as any in the NHS. Our drugs are always running out without immediate hope of replacement, and I regret to say that deaths occur because oxygen or tetracyclines are just not available ... it is alarming when there is nobody to consult but one's textbooks and two years' experience. Surely it is more satisfying to realize that one's patients are receiving the most modern drugs, with all modern ancillary aids, than gaining experience but at the patient's expense.[137]

In both the late colonial and early independence era, the low popularity of the north as a posting meant that some of those who applied to work there seemed particularly committed to the region, and critical of perceived inequities in the provision of northern and southern health services. These included the British doctors B.B. Waddy and David Scott. Waddy, discussed in Chapter 4, was the region’s Principal Medical Officer in the 1950s, when he oversaw the creation of the Medical Field Units. He was dismissed at independence, but he continued to act as an advocate for northern health needs from London, and he was instrumental in organising a survey of regional onchocerciasis by the British Empire Society for the Blind, leading to the recognition that northern Ghana had the highest incidence of the disease worldwide. Scott joined

136 P. Rabindran, ‘Correspondence - Health in Ghana III’, *British Medical Journal* 2, no. 5306 (15 September 1962): 732.
137 P.R. Richards, ‘Correspondence - Practice Overseas III’, *British Medical Journal* 1, no. 5285 (21 April 1962): 1143.

the Medical Field Units in 1954, and remained in the north until 1961 when he became the Ministry of Health's lead epidemiologist. He retired to Accra and died there. In interviews with individuals who trained and worked with him, and who went on to lead the Ghana Health Service in the 1980s and 1990s, he was often recalled as an advocate for improved northern health services.[138]

The number of foreign staff employed in the north declined after 1961, as the Nkrumah government became increasingly critical of the colonial legacy and ongoing British influence in Ghana. By 1962, at the senior level (including doctors and regional officials) the region's medical service appears to have been largely staffed by personnel from the south, who also made up a significant proportion of trained nursing staff. Perhaps the only parts of the northern health service predominantly made up of northerners were the sanitary and dispensary staff who had previously worked for the Native Administrations, and employees of the Medical Field Units.[139] In interviews with a former Deputy Director General of the Ghana Health Service, and a former Regional Director for health services in the north, it was emphasized that for southern health workers, a posting to the north was sometimes seen as a form of punishment, and appointments to northern facilities were often resisted.[140] The ongoing centralisation of medical training in Ghana, begun in the early 1950s, also contributed to northern staffing problems after independence. In 1958, the government announced that all district sanitation officials would be required to hold a three-year certificate from the Accra School of Hygiene. The Northern Region administration pointed out that this would 'rule out most of the serving officers' in the region's districts, and that because of low educational opportunities in the region throughout the colonial period (entrants

138 Dr Moses Adibo, Interview, Accra, 17 June 2016; Dr Sam Adjei, Interview, Accra, 26 June 2016; Dr Samuel Oko Sackey, Interview, Accra, 22 June 2015.

139 See staff, NRG/8/13/40 (1959-65) Health Education, PRAAD Tamale, Enc.12: Minutes of the Regional Committee of Health Education of the Public, October 3, 1961.

140 Dr Sam Adjei, Interview, Accra, 26 June 2016; Dr Sam Bugri, Interview, Tamale, 30 June 2015.

to the Accra School of Hygiene were required to hold a secondary school leaving certificate), it was unlikely that the requirement could be met in the near future.[141] The dearth of colonial-era educational opportunities created similar problems in the recruitment of northern women for nursing and nutritional services after independence, as women had previously been almost entirely excluded from government schooling in the region.[142]

Northern health initiatives under the CPP Government: nutrition and disease surveillance

After independence, the Nkrumah government first centralised and then partly re-regionalised the responsibility for local healthcare. In 1957, the Ministry of Health asserted control over all health provision, preventing Local Authorities (formerly Native Authorities) from 'initiating or developing' any medical work or building any new facilities.[143] In the colonial era, Native Authorities had funded health services from their own treasuries, and had broadly been free to shape rural medical provision according to their own determination of community needs. This marked a final end to the north's NA health system, which had been undermined over the preceding decade by centralisation and low staff allocations. The system had also been undermined by the antagonistic relationship that had developed between the CPP, guided by anti-tribalist nationalism and with a predominantly southern constituency, and the NPP as a representative of traditional elites in the north. In 1958, the Ministry returned control over healthcare decisions to northern regions, but on Accra's terms. Local Councils were instituted to replace the former colonial District Councils, which

141 NRG/8/13/7 (1947-1959) Health Training School, PRAAD Tamale, Enc.25: 'Qualifications', Ministry of Health Circular, 14 November 1958.
142 See, for example, NRG/8/13/18 (1951-1964), Enc.26: 'Vacancies for Nutrition Assistants', Ministry of Health Nutrition Unit to Regional Office, Tamale, 5 December 1960.
143 NRG/8/13/26 (1953-1960), Enc.14: 'Local Authority Health Services', circular from MoH Accra, 31 December 1957.

had been composed of Native Authority representatives: the change increased the influence of the CPP in the north.[144]

With health services now based around the new councils, the Ministry of Health created Local Council Health Committees in each of the north's administrative districts. The committees were able to apply for grants from government central funds, allowing them to take over the sanitation work and deployment of rural medical personnel that had previously been funded by Native Authorities.[145] At the same time as this re-regionalisation of basic rural health services, there was an expansion in the number of large health facilities directly controlled and financed by the Ministry of Health. By 1960 there were 12 District Health Centres in the north, staffed with nurses and usually doctors, providing outpatient treatments and dispensary treatments as well as maternal and child healthcare.[146] Isolation wards were added to all northern hospitals, as part of a nationwide tuberculosis control programme, and wards reserved for women and children were built at most of region's facilities.[147] In support of health education and disease control work, the state was able to use a greatly increased number of northern media outlets including local radio, printing services, and newspapers, generally produced in Tamale, to publicise its initiatives.[148]

The CPP government made efforts to improve the provision of health services to northern women, and to increase the number of women employed as healthworkers. Mobile clinics for women and children were introduced in health centre districts, representatives of 'women's groups' were given a permanent place on Local Council

144 Saaka, 'North-South Relations', ch.7; Brukum, 'Northern Territories under British Rule', 371–80.
145 NRG/8/5/188 (1958) Eastern Dagomba Local Council Health Committee, PRAAD Tamale, Enc.1: Minutes of the First Meeting of the Health Committee, 29 July 1958.
146 NRG/8/13/40 (1959-65), Enc.4: 'Northern Region Health', undated memorandum (1960).
147 NRG/8/13/32 (1954-65) Infectious Diseases, PRAAD Tamale, Enc.92: PMO Tamale to RC, Northern Region, 1 February 1960.
148 See, for example, NRG/8/13/40 (1959-65), Enc.3: Minutes of the Committee for Planning National Health Week, 2 February 1960.

Health Committee meetings, and under the government's northern nutritional programme (discussed below), preference was given to the employment of women as government nutritional officers.[149] In 1960, northern health officials also formulated an extensive, locally tailored plan for school health services, including in-school health inspections and vaccinations. They observed that 'the number of medical officers has fortunately increased considerably, enough now to make this possible'.[150] Before the collapse of the southern cocoa economy in 1964, and particularly before the abandonment of Ghana's Second Development Plan in 1961, there were some tangible advances in the provision of health services to northern communities, reversing some of the decline that had drawn criticism at the end of colonial rule.

However, the region's healthcare system still depended partly on Christian groups that had been given control of government medical facilities in the late colonial period. Catholic or Anglican Bishops (or their spokespeople) were given permanent representation on northern health committees, mission societies continued to control many northern hospitals, supported with government grants, and churches worked in tandem with the regional health services in campaigns against 'undesirable social practices', including prostitution.[151] Increasing competition between mission-based and government health services drew complaints from the Ministry of Justice in Accra, which argued that 'there is a great deal of overlapping and duplication of the health programs, and this tends to confuse the community in which these agencies operate'.[152] Despite the significant proportion of Muslims in northern Ghana, from 1957-1966 the

149 Ibid., Enc.3: Minutes of the Committee for Planning National Health Week, February 2 1960' and Enc.4, 'Northern Region Health', undated memorandum (1960).
150 Ibid., Enc.5: 'School Health Service', Circular from PMO, Tamale, 22 March 1960.
151 See ibid., Enc.2: Regional Committee on Health of the Public, Meeting 22 March 1960; and Enc.3: Minutes of the Committee for Planning, February 2 1960; NRG/8/5/308 (1965) Regional Committee for Social Education Progress Campaign against Undesirable Social Practices, PRAAD Tamale, Enc.1: Memorandum from Ministry of Health & Social Welfare, 12 June 1965.
152 NRG/8/13/40 (1959-65), Enc.19: 'Co-Ordination Of Health Activities', Letter from Ministry of Justice, Accra, to Regional Commissioner, Northern Region, 19 March 1963.

government does not appear to have made similar efforts to involve Muslim groups or leaders in the development of northern health, at least not to the extent that these were represented on regional health committees. The persistently close relationship between Christianity and the state in northern healthcare, across the century, appears to have been a reflection of this relationship in Ghana as a whole, with Christian churches able to exert a greater influence on national health policy in Accra. Muslims made up only 17 percent of Ghana's total population in 2010, for example, but they comprised 48 percent of the northern population of 4.2 million people.[153]

Apart from the expansion of physical healthcare facilities and an increase in staff numbers – both of which had begun a reversal by 1966, as I discuss below – the CPP government pursued three principal health initiatives in the north: the improvement of infectious disease surveillance and control work, another initiative focused on nutrition, and another on health education. The three programmes reveal the inconsistent attention given to specific health problems in the north over the Nkrumah years, and the way that local health work was sometimes neglected as healthcare officials pursued the CPP's preferred national projects. Of the three initiatives, the nutrition programme was most successful, certainly in terms of the number of communities reached by government health-workers. Northern nutrition became an urgent national health priority soon after independence, when a joint investigation by the WHO and United Nations Food & Agriculture Association (FAO) in 1958 found serious shortfalls in the availability of affordable food, creating a cycle of under-production and increased malnutrition. The investigation estimated that working age men in the north needed 2,680 daily calories of food to sustain moderate agricultural labour, but only able reliably to obtain 1,600 daily calories, falling to 1,100 in the dry

153 Government of Ghana, '2010 Population & Housing Census Of Ghana', 40, Table 16.

season.[154] Following the investigation, the north was given 'first line' status at the passing of the National Food & Nutrition Act of 1959, which made improve nutrition on of Ghana's central welfare policies.[155] The National Medical Nutritional Survey, which followed the act, again identified the northern regions as requiring the most urgent attention.

Nutrition Officers, almost all of them women, were appointed to travel the region and advise communities on diet, domestic food production and meal preparation.[156] For a period and region where relatively few sources give a granular level of detail on the day-to-day work of health personnel, the daily and monthly activity logs of the north's Nutrition Officers offer a wealth of day-by-day information, and a striking example of publicly accountable health activity (in the sense that their work was open to community comment and local political scrutiny), during the Nkrumah years.[157] They also reveal the political terrain that health workers might be required to negotiate in order to maintain their positions and continue work, and the extent to which the CPP maintained an influence over the apparently neutral organs of state welfare. In 1961, for example, Ghana's Ministry of Agriculture, A.S. Abban, wrote personally to the northern administration to ensure that his preferred appointee for a northern Nutrition Officer would be introduced to specific 'VIPs', including the senior constituency members of the CPP and traditional chiefs.[158]

The CPP government's second initiative, to improve the surveillance and reporting of infectious disease in the north, was also relatively successful – in part

154 See Destombes, 'Long-Term Patterns of Seasonal Hunger', 22.
155 NRG/8/13/18 (1951-1964), Enc.24: Letter from National Food & Nutrition Board to Regional Commissioner, Northern Region, 23 June 1960.
156 Ibid., Encs.25-30: Northern Regional Office, correspondence regarding Nutrition Officers, 1960-1961; NRG/8/13/40 (1959-65), Enc.4: 'Northern Region Health', undated memorandum (1960).
157 NRG/8/13/18 (1951-1964), Encs.31-59: Local Nutrition Boards, Northern Region, Monthly & Daily Activity Logs, 1961-1964.
158 Ibid., Enc.29: A.S.A Abban, Minister of Agriculture to Northern Regional Commissioner, Appointment of Miss Florence Adadevoh as Nutrition Officer, 24 February 1961.

because of the rural public health system that had been created locally before independence, in response to low allocations of funding from Accra. As the Ministry of Health tried to increase its capacity for recording cases and identifying outbreaks of infectious disease, it drew on the existing knowledge and information networks of the north's traditional leaders, which had become a central part of northern disease control from the 1930s.[159] It was also able to use the Medical Field Units, created in the late 1940s to serve remote northern settlements that lay beyond the reach of existing medical services. The success of the north's Medical Field Units in the Nkrumah-era disease surveillance programme led to their adoption as a national institution after 1966. This meant that the MFU headquarters was relocated to the Ministry of Health in Accra, where its leading personnel were deployed to create an Epidemiology Division for the Ghana Health Service.[160]

As with the Native Authority rural dispensaries, a northern innovation prompted by southern neglect had become a cost-effective national success. Immediately after independence, for example, Ghana faced the 1957-58 'Asian Flu' influenza pandemic, and the north's existing disease surveillance network was found to be highly effective in recording the incidence of the disease when it reached West Africa. The precision of observations in the north meant that it was possible to estimate a regional mortality rate of 0.7 deaths per 1,000 people, suggesting that the pandemic had more serious effects in northern Ghana than in many other world regions (the particular strain of influenza was considered relatively mild, and the global mortality rate has been calculated at 1.4 deaths per 10,000 people).[161] During the 1957 pandemic,

159 See, for example, NRG/8/13/32 (1954-65), Enc.80: 'Smallpox Outbreak at Pong-Tamale', Letters from Government Agent, Tamale to Yo-Na, Savelugu; Tolon-Na; Kumbung-Na, Kumbungu; Nanton-Na, Nanton, 18 March 1958.

160 Ashitey, *Disease Control in Ghana*, 11–12.

161 NRG/8/13/32 (1954-65), Enc.68-78, Influenza reports and statistics, 1957; and see Cécile Viboud et al., 'Global Mortality Impact of the 1957–1959 Influenza Pandemic', *Journal of Infectious Diseases* 213, no. 5 (2016): 738–45.

the CPP government also revived colonial-era quarantine laws that had been shelved during the late 1940s, when coercive quarantine was restricted on political grounds. The laws, which used the same drafting as the colonial Acts, allowed the state to restrict community movements, to detain infected individuals, and to prohibit 'public meetings, funeral ceremonies, and other native customs'.[162] These Quarantine and Vaccination Ordinances would be used extensively during the World Health Organisation's eradication campaign against smallpox, which began officially in 1966, although preparations for a mass control programme began in northern Ghana from the early 1960s.[163]

In this period (1957-1966), the state's disease control priorities were shaped by the priorities of the CPP government and by the increasing influence of the WHO, after Ghana became the first independent African state to assume membership in 1957.[164] As the result of the disease's prioritisation by the WHO, smallpox became a central focus of the CPP government's health programme in the north. Monitoring posts were established along Ghana's border with French Upper Volta, quarantine restrictions were deployed with increasing frequency, and by 1960 teachers at northern schools were being trained to become 'Teacher-Vaccinators', in anticipation of 'the country-wide vaccination campaign to be launched soon by the World Health Organisation'.[165] These developments came at a time when many local officials considered measles to be the most serious illness affecting northern communities, a vaccine-preventable disease

162 NRG/8/13/32 (1954-65), Enc.67: Regional circular on regulations permitting quarantine restriction, PMO Northern Region, 2 September 1957; and Enc.68: MoH, 'Infectious Diseases Ordinance-Influenza Order 1957'.

163 Ibid., Encs.80-86: Internal correspondence and quarantine regulations for smallpox control, 1959-1960.

164 WHO/L2/308/2/GHA (1957) Ghana Membership, WHO Geneva, Enc.19: Kwame Nkrumah to WHO Secretariat, 30 March 1957.

165 NRG/8/13/40 (1959-65), Enc.5: Circular from Principal Medical Officer, Tamale, 22 March 1960; Enc.6: Minutes of the Regional Committee, Held on 1st April 1960; NRG/8/13/32 (1954-65), Encs.80-86: Internal correspondence and quarantine regulations for smallpox control, 1959-1960.

that ‘cost more in terms of morbidity and mortality than all the major epidemics together’.[166] As I discuss in the following section of this chapter, the resources committed by the central government in support of transnational eradication campaigns may have reduced attention to diseases that more concretely threatened the life and health of northern people. Apart from smallpox, the evolution of the state’s disease monitoring system in the north was also shaped by the WHO’s prioritisation of other specific diseases. Central government spending on the expansion of northern surveillance for bilharzia and tuberculosis, for example, followed the precedent establishment of WHO programmes against these diseases in Ghana.[167] In other words, at the same time as Ghana’s government asserted its newfound political independence, the Ministry of Health appears to have ceded some authority for decisions about public health priorities to the WHO, a trend which accelerated during the rapid political transitions that followed the deposal of Nkrumah.

166 See Scott, *Epidemic Disease in Ghana*, vii.

167 See WHO/Project files/Ghana-2101 (1959-1973) Bilharziasis Control, WHO Geneva; NRG/8/13/32 (1954-65), Encs.98-101: Correspondence relating to Bilharzia: Principal Medical Officer, Northern Region and Ministry of Health, 1962; and WHO/Project files/Ghana-1202 (1960-1973) Tuberculosis Control, WHO Geneva; NRG/8/13/40 (1959-65), Enc.24: ’Minutes of the The Northern Regional Committee, TB Screening’, 10 July 1964.

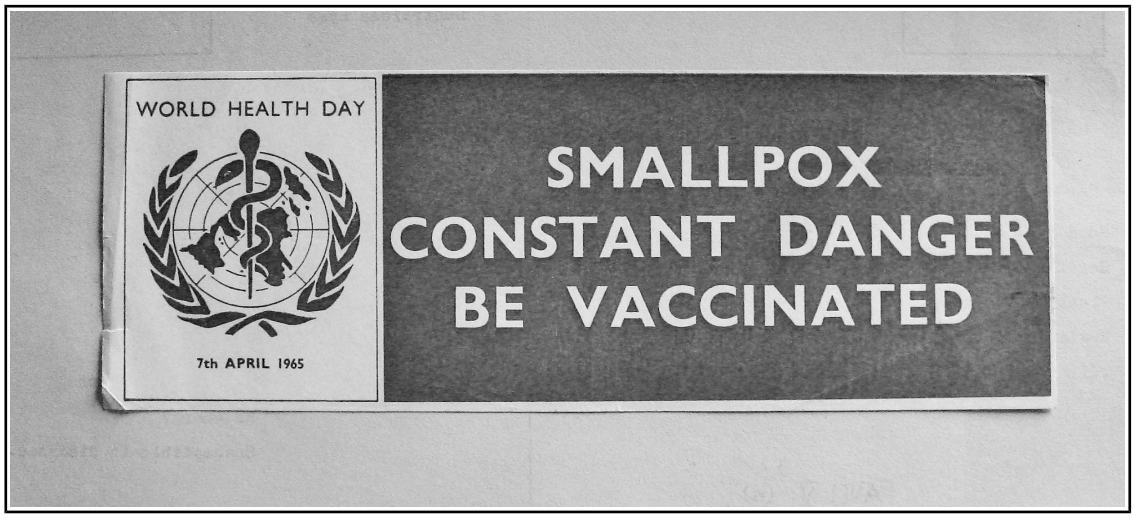

Figure 17. WHO smallpox vaccination publicity materials distributed in northern Ghana, 1965
Source: NRG/8/13/44 (PRAAD Tamale)

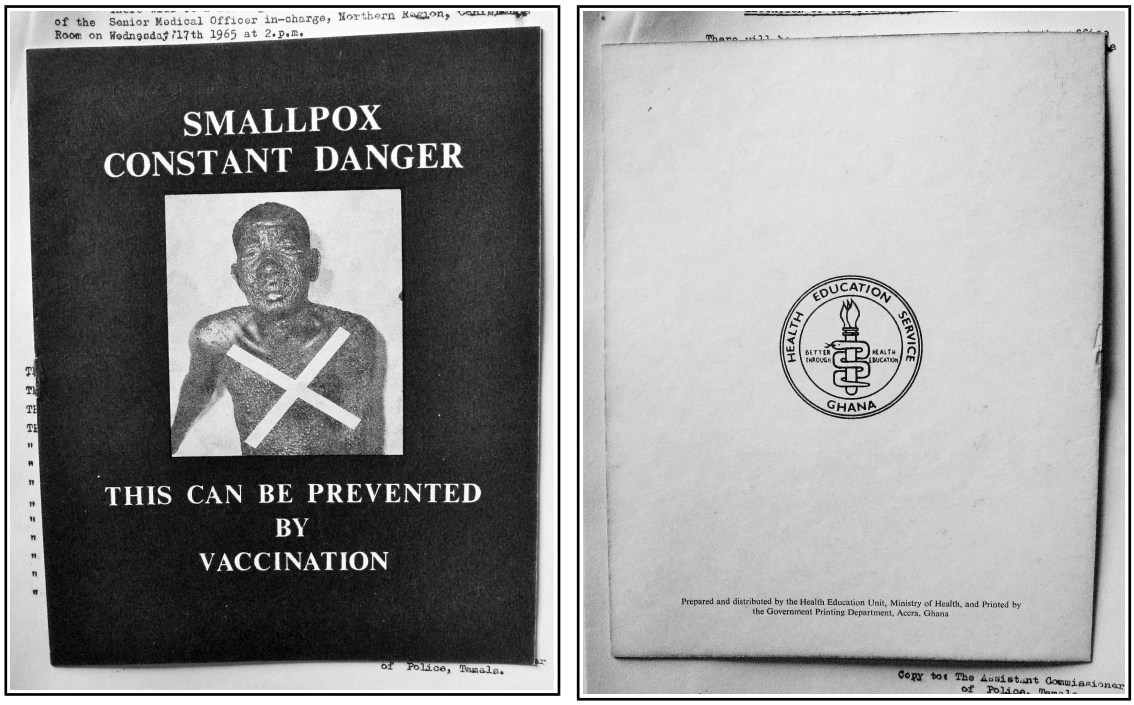

Figure 18. Ghana Health Education Service, vaccination publicity pamphlet distributed in northern Ghana, 1964-1965
Source: NRG/8/13/44 (PRAAD Tamale)

The CPP health education initiative in the north: national health on the nation's margins

Along with nutrition, improved basic health education was another central policy of the CPP government. As I discuss in Chapter 6, on guinea worm, urban communities in the south had benefited from health education initiatives since the early 1900s, when techniques for filtering drinking water and avoiding common diseases were first taught in schools. In the predominantly rural north, where relatively few government schools were built during the colonial period, there had been no systematic attempt to provide basic health education of this kind, and the Nkrumah government oversaw the region's first health education programme. However, the history of this CPP programme in the north also indicates the secondary importance given to regional contexts for healthcare, in relation to national concerns.

The national health education initiative began in southern Ghana from 1958, but its extension to the north was delayed for some years, as the cocoa districts and constituency centres of the CPP were given priority. In 1959, the Minister of Health told northern officials: 'It had been understood in your region that the Ministry would find the funds for the future operation of health education in Northern Ghana. I regret, however, to inform you that the grant from the Cocoa Marketing Board for non-cocoa growing areas, made to me this year, has now been fully allocated, and I unable to consider your request'.[168] In 1960 the north eventually received a small allocation of central government funds, which were used to establish trial health education projects in the Tumu, Bolgatanga and Tamale districts. Medical Officers formulated a syllabus intended to provide essential, locally relevant information on nutrition: 'preparation and use of local foods, and the feeding of children, expectant and nursing mothers so as to prevent malnutrition'; on the popularisation of government medical facilities: 'to

168 NRG/8/13/40 (1959-65), Enc.1: Letter from Ministry of Health & Social Welfare to Regional Commissioner, Northern Region, 4 December 1959.

encourage regular attendance at clinics, at Health Centres and Hospitals, and to make the people accept as a fact that these institutions have been built for them'; on community sanitation: 'to spread knowledge of the transmission of alimentary infections and encourage communal efforts to control them by digging latrines and using them'; and on the recognition and prevention of local diseases: 'to impart to the people knowledge of the commonest communicable diseases prevalent in the Northern Region - smallpox, cerebro-spinal meningitis, ankylostomiasis, bilharzia and others'.[169]

Despite the importance given to the national health education initiative in Accra, and presentation of detailed plans and budgetary requests by northern health officials – including proposals for the creation of 66 village health education committees across the region – health education in the north continued to depend on temporary, discretionary allocations of funds from a shifting set of ministries in Accra. In 1960, for example, funds were provided by the Ministry of Education's Department of Social Welfare and Community Development, for example, not by the Ministry of Health, and they were exhausted by the end of the year.[170] Although some level of central funding was provided until 1965, the expansion of basic health education in the north was limited by another factor: the earmarking of significant funds for a single annual event, Nkrumah's 'National Health Week', sometimes in preference to the extension of health education to outlying rural communities. The CPP Government seems to have set great store by the annual health weeks, intended to publicise a particular health education theme each year. Nkrumah announced each year's theme himself at an annual Christmas speech: in 1961 the theme was 'The Importance Of

169 Ibid., Enc.4: 'Memorandum, Northern Region Health', undated (1960).
170 Ibid.; and Enc.6: Minutes of The Regional Committee for Health Education, 1st April 1960.

Food Production To Good Health', and 'Health Homes for Healthy Families' in 1962.[171]

The central planning committee sent numerous memoranda to the northern administration, requiring it to publicise and celebrate the annual Health Week theme with 'pomp, grandeur and success', and giving a detailed programme for regional committees to follow each year. This included public rallies, large-scale exhibitions including the construction of temporary model buildings, and a number of competitions between, for example, local trade groups including butchers, chop-bar keepers and bread sellers, in the maintenance of hygienic standards.[172] The costs of organising and hosting the National Health Week were taken from the north's total annual vote for health education, and from 1959-1964 it appears that the health weeks absorbed much of the funding and time available to the regional Committee for Health Education.[173] Proposals to expand basic health education in rural areas, or to teach techniques for domestic vegetable production were shelved, and instead the committee's principal focus became the organisation of a single week-long festival and exhibition in Tamale, beyond the reach of most northerners.[174] In mid-1960, after months of regular meetings and detailed discussions to plan the event, the committee's funds were exhausted and it did not meet again until 1961, when it reconvened with a new budget to plan the next health week.[175] In 1962, there was a minor scandal when journalists at Accra's *Daily Graphic* discovered that the northern administration proposed to spend a significant

171 Ibid., Enc.7: Minutes Of The Regional Committee On Health Education, Northern Region, June 16 1960; Enc.8: National Planning Committee to Regional Commissioner, Northern and Upper Regions, 18 July 1960; Enc.13: 'National Health Week', Memorandum from Central Committee for Health Education to Regional Commissioner and PMO, Northern Region, 7 November 1961.

172 Ibid., Enc.13: Memorandum from Central Committee, 7 November 1961; Enc.6: Minutes of the Regional Committee On Health Education, 20 May 1960; Enc.7: Minutes Of The Regional Committee On Health Education, 16 June 1960.

173 See NRG/8/13/40 (1959-65).

174 Ibid., Enc.6: Minutes of the Regional Committee, May 20 1960; Enc.15: Minutes, Health Education Committee for the Northern Region, 18 January 1962.

175 Ibid., Enc.12: Minutes Of The Regional Committee Of Health Education Of The Public, 3 October 1961.

proportion of its total health budget improving the municipal drains in Tamale ahead of the Health Week event, and not on planned rural health measures.[176] Some northern Health Education Committee members, notably the Anglican Canon J.H. Brewer, complained about the pressure each national Health Week theme placed on the region's annual funding, insisting that the 'horror' of epidemic measles deserved greater local attention.[177]

Here was an example of a national health programme which displaced local initiatives, as local officials attempted to meet the requirements of a priority project for the ruling party. As the economy began to falter in the mid-1960s, however, the CPP government stopped emphasising the importance of National Health Week. The Ministry of Health no longer provided a detailed plan to the regions, noting their 'very limited available resources of manpower and material', and instead left it to regional committees to organise a celebration according to their means.[178] But the north's Health Education Committee was still required to allocate part of its its budget towards another similar event, the WHO's World Health day, which supplanted the National Health Week as an annual focus for health education by the mid-1960s, as the CPP government became preoccupied with activities and regions that generated revenues for the state.[179]

In the health-related archive of the Nkrumah-era northern administration in Tamale, the largest single file (more than double the length of any other) is titled 'World Health Organisation'. Covering the years from 1961-1967, when economic and political shifts undermined the capacity of the central government, it includes plans for

176 Ibid., Enc.17: Medical Public Relations Division, MoH Accra, to PMO, Tamale, and *Daily Graphic*, 5 March 1962.
177 Ibid., Enc.6: Minutes of the Regional Committee, May 20 1960.
178 Ibid., Enc.20: 'National Health Week', MoH Accra to Regional Health Education Officer, Northern Region, 11 July 1963.
179 See Beckman, *Organising the Farmers*, ch.7.

celebrating the WHO's World Health Day as required by the Ministry of Health. The file also reveals a degree of direct WHO influence on the arrangement of northern healthcare, including press releases sent from the WHO to northern medical officers, covering aspects of health activity and disease control in the north.[180] The increased influence of international organisations is a central theme of Chapter 5. Here it is worth noting how the WHO's World Health Day came to take the place of Nkrumah's National Health Week – perhaps emblematic of the broader shift of public health authority towards the WHO in many African states, as the independence-era ideals of national self-sufficiency were tempered by exposure to economic difficulties. It is also worth noting how the event consumed local funding for rural health education in a similar way. In 1963 the World Health Day's theme was 'Blindness', in 1964 it was 'No Truce for Tuberculosis', and in 1965 it was 'Smallpox: Constant Alert!'. The north's Health Education Committee was again required to plan and fund an exhibition from the region's overall health budget, with additional mobile cinema vans for rural communities (showing films relevant to the annual WHO theme) to be organised centrally in Accra.[181]

As with the National Health Week, officials organised a single exhibition in Tamale, out of the reach of most northern communities. Even in years when the WHO's annual educational theme was particularly relevant to the north (the 1962 theme of 'Blindness', for example, was directly linked to the recognition of African onchocerciasis as a global health emergency), the central government appears to have placed most importance on the event itself, as a public spectacle. It rarely sent the

180 NRG/8/13/44 (1961-1967) World Health Organisation, PRAAD Tamale.

181 NRG/8/13/40 (1959-65), Enc.25: Minutes of the Northern Regional Committee, 26 January 1965; Enc.22: Minutes of the Northern Regional Committee, 16 March 1964; Enc.24: Minutes of the Northern Regional Committee, 10 July 1964; NRG/8/13/44 (1961-1967), Encs.64-70: Planning materials for World Health Day, 1962; Enc.98: Government Information Service, Accra, to Regional Information Officer, Tamale, 'Briefing Notes on World Health Day', 30 March 1962.

Ministry of Health's public cinema vans to the north, sending apologies each year when all available films were in use in southern districts. The Accra government nevertheless continued to insist on detailed reports about the popular reception of the World Health Day exhibition, an emphasis which evidently shaped the response of northern officials, who gave glowing accounts even as their budgets diminished. 'The success of the day was a remarkable achievement, and its prominence will ever remain fresh in the minds of the people,' reported the Northern Region's Information Officer, in a year when the only significant event during the north's Health Day celebrations had been a single film-viewing, held in the administration's headquarters.[182]

Conclusion: Public health in the north at the end of the Nkrumah years

By the time that the cocoa price collapsed, the northern administrations (in what were then called the Northern and Upper Regions) had already seen a steady reduction in the region's spending allocations from central government. There had been some beneficial developments immediately after independence, with an increase in the number of district Health Centres, the expansion of surveillance capabilities for some diseases, and the implementation of a nutritional programme that reached many rural communities. But by 1964, northern officials observed that in terms of government funding there was 'very little to handle from year to year'. The Accra government began to emphasize 'self-help' as a way of meeting development objectives in the north, transferring the responsibility for rural health projects (in terms of labour, oversight and part of the costs) back to district officials and local authorities.[183] In 1965, the grant funds available for northern self-help projects were also cut substantially, to

182 NRG/8/13/44 (1961-1967), Enc.103: 'Report on WHO Day 1962', Director of Information Services to Regional Informations Officers, Tamale and Bolgatanga, 18 April 1962.
183 NRG/8/7/57 (1964-1965) Regional Development Policy, PRAAD Tamale, Enc.2: Internal Notes, 13 May 1964.

less than 6 percent of the total national allocation. As Chief Commissioners of the colonial period had done before, Regional Commissioner Ebeneezer Adam lodged a protest with the CPP government, noting that the state's 'infinitesimal' allocation of funding was inadequate to meet projected needs: 'I consider, therefore, that some injustice has been done to our region'.[184] Here again, advocacy from northern officials was largely ineffective as problems deepened for the state as a whole.[185] Recession in the national economy accelerated a longer-term process of decline in the provision of rural health services in the north, which had begun in the late 1940s with the centralisation of authority that undermined NA healthcare. In 1962, the Northern Region's Principal Medical Officer, Dr C.S. Hoffman, submitted a critical report to the Ministry of Health. He argued that the accelerated spread of diseases was a direct result of this centralisation, and noted the precarious state of the north's rural health services:

> I draw your attention to the recent outbreaks of small-pox and cerebro-spinal meningitis in the Northern Region, epidemics of measles, and the present epidemic of typhoid. The spread and belated discovery of such epidemics are connected with a) the almost complete collapse of local Sanitary Services and Dressing Stations, depriving the Ministry of early notification and information, and b) the collapse of basic Sanitary Services in rustic areas, which is directly and indirectly responsible for the current epidemics ... I cannot stress enough that immediate restitution of the formerly existent sanitary personnel – as employed by the local authorities – is the most vital issue for the north.[186]

In their study of agricultural development and the environment in northern Ghana, Grischow and Weiss argue that although the Nkrumah government promised a great deal to the region in terms of development, the net effect of CPP agricultural policy (which principally involved the creation of large-scale mechanised farms producing rice and tomatoes) was to 'to force peasants into cash crop production for

184 Ibid., Encs.4-10: Correspondence between Department of Social Welfare and Community Development and Regional Commissioner, Tamale, July 1965.
185 Ibid., Enc.6: Handwritten file note, 17 July 1965.
186 NRG/8/13/32 (1954-65), Enc.40: C.S. Hoffman, PMO Accra, to MoH Accra, 5 December 1962.

markets abroad and in southern Ghana, rather than increasing foodstuff production for the North'.[187] This echoed a similar policy pursued by colonial governments in the north before the 1930s, when northerners were 'encouraged almost to the verge of coercion to cultivate crops, cotton and shea butter among others, which were intended for export out of the country'.[188] The Nkrumah government also cancelled the planned northern extension of Ghana's railway network. A railway had been extended from the coast into Ashanti by 1903, but plans to extend the line to the northern border were shelved in the 1920s, and it was only in the 'developmental' late colonial period that proposals for the extension were renewed. But these were cancelled again soon after independence, on the grounds that funds were needed for the Volta River hydroelectric project.[189]

The uneven provision of health services in the north during the Nkrumah era reflected this broader failure to realise the promises and potential that had accompanied the transition to independent rule for northern Ghana. The CPP had proposed to address the region's health needs as a matter of urgency. But as it oversaw the construction of new District Health Centres, it presided over a continued decline in rural health staffing and facilities that began in the late 1940s, and finally reached a point of collapse in the late 1960s. In this sense, healthcare in the north under the first independent government was to some extent a perpetuation of late colonial policy, and of the same colonial-era relationship between Accra and the north, indicating the enduring effect of the north's geographic, economic and political marginality in shaping its developmental fortunes. In 1966, while away on a diplomatic visit to China, Nkrumah was deposed in 'Operation Cold Chop', a coup led by a group of military and police officers who

187 Jeff Grischow and Holger Weiss, 'Colonial Famine Relief and Development Policies: Towards an Environmental History of Northern Ghana', *Global Environment* 4, no. 7 (2011): 95–96.
188 1934-1935 NTAR, 108–12.
189 Brukum, 'Northern Territories under British Rule', 240–43.

installed themselves in government as the National Liberation Council.[190] This marked the beginning of a twenty-year period of rapid political transitions, prolonged stasis in the expansion of physical health facilities in the north, and an accretion of control by international organisations, over the maintenance and development of the region's rural healthcare system.

190 Gocking, *History of Ghana*, 137–39; and see Peter Barker, *Operation Cold Chop: The Coup That Toppled Nkrumah* (Tema: Ghana Publishing Corporation, 1979).

CHAPTER 4

From sleeping sickness to onchocerciasis: disease control before and after independence

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In Chapter 2, I examined the anti-tsetse campaign, the most extensive public health intervention in the north during the colonial era. Shaped by the long-term economic preferences of the colonial government, the campaign had ambitions beyond the immediate reduction of trypanosome transmission. It emerged from the belated recognition of the threat posed by sleeping sickness in the north, and developed into a large-scale attempt at social and environmental engineering, in a region which had little political influence in Accra. The anti-tsetse work proceeded without regularly consulting either northern communities or northern officials, including medical officers, which may have meant that the unintended consequences of the Tsetse Control Department's bush clearing and resettlement programme went unnoticed. This chapter examines the links between colonial-era tsetse control and onchocerciasis, before turning to the WHO Onchocerciasis Control Programme in the years after 1957 – a transnational campaign that re-situated Ghana's peripheral north as a central focus of international disease control work and fund-raising. The chapter discusses connections between public health activity in different periods, and charts the gaps in institutional memory that were created by the independence transition.

First, some background to onchocerciasis in the Gold Coast, and in its historiography. Patterson has described the slow accumulation of medical knowledge around onchocerciasis from 1900 to 1950, noting how evidence of the disease was repeatedly overlooked by Gold Coast medical officers before the 1940s. Like Grischow, focused specifically on trypanosomiasis, Patterson did not examine the

linkages between the two diseases, although both observed that sleeping sickness and onchocerciasis were prevalent in the same areas.[1] Here I seek to build upon Patterson's study of northern onchocerciasis before 1950, using sources which were unavailable at the time of his research, and then to extend the analysis through the 1950s and into the decades after independence.[2]

As with some other diseases, including yellow fever and sleeping sickness, the history of onchocerciasis in the Gold Coast shows how local medical research was often conducted with a view to building reputations in Europe, as opposed to identifying or addressing local public health concerns. Several foundational discoveries relating to onchocerciasis were made in the Gold Coast. In 1874, a British surgeon at Ada published the first description of the microfilaria form of the parasite, isolated from the skin of a patient suffering from 'craw-craw' - an itching skin condition caused by the disease. In 1893, the adult worm was identified by the zoologist Rudolf Leuckart, in skin nodules collected from African patients by a German medical missionary on the Gold Coast. Fulleborn and Simon, another pair of German medics based in the colony, established a link between the microfilariae and the adult worm in African patients in 1914. The insect vector was identified in 1923 in another West African colony, Sierra Leone, while the link between parasite infection and blindness was confirmed in 1915, by Rodolfo Robles in Guatemala – the disease was transported from Africa to the Americas during the slave trade.[3]

1 K. David Patterson, 'River Blindness in Northern Ghana, 1900-50', in *Disease in African History: An Introductory Survey and Case Studies*, ed. M.J. Azevedo, G.W Hartwig, and K.D. Patterson (Durham: Duke University Press, 1978), ch.4.

2 Including from the CSO and NRG file series of the Ghana archive, largely uncatalogued at the time of Patterson's study, and from the WHO Archives in Geneva.

3 Isao Tada, 'Onchocerciasis', *Tropical Medicine and Health* 43 (November 2015): 57–60; G. Kluxen, 'History of Onchocerciasis', 2005, Hosted at http://jean-hissette.de/Oncho_JH_GB.html, accessed 20 July 2015.

These turn-of-the-century research advances, many of them based on the bodies of Gold Coast people, had revealed a great deal about a previously unknown disease. Despite this knowledge, it was only after 1932, following research in the Belgian Congo, that the connection between *onchocerca* parasites and blindness in Africa became widely accepted.[4] In the case of the Gold Coast, onchocerciasis was only officially recognised as a serious public health problem in the final years of the colonial period. This doesn't mean that it was unknown to medical officers or African subjects. From the outset of colonial rule in the north, the annual disease returns recorded that unspecified eye disease made up an extremely high proportion of the total number of African people who presented for treatment at the region's medical facilities. In 1912, a medical officer conducted an investigation of widespread blindness affecting villages in the Tumu district, and in 1921 a district officer recorded that at a northern settlement called Kangjunmangchang, 'the majority of the people are blind owing to some contagious eye disease'. Both of these reports were transcribed from old district logs in 1949, by B.B. Waddy, a medical officer who served in the north and who conducted the region's first systematic survey of the disease. Waddy observed that in each case the reports had received no attention from the higher levels of the medical department, and Kangjunmangchang had ceased to exist by the 1940s.[5]

In 1929, the colony's annual medical report noted that in the Northern Territories, 'cases of severe conjunctivitis leading to opacities and often to blindness are very common'.[6] And in 1934, as the administration began its medical and bush clearing campaigns against sleeping sickness, local medical officers established

4 Following research by Jean Hissette, who confirmed the link to 'River Blindness' in the Belgian Congo in 1932. D. L. Augustine, 'The Pathogenicity of Onchocerca Volvulus', *Bulletin of the World Health Organization* 16, no. 3 (1957): 665–69; Kluxen, 'History of Onchocerciasis'.

5 GB/0809/Ross Institute/03/23/Vol.27 (1949) 'Onchocerciasis in the Northern Territories', by B.B. Waddy, LSHTM Archive, London.

6 1928 MDAR, 14.

conclusively (through tissue samples) that onchocerciasis was the cause of blindness in at least some cases.[7] To those British officials who were interested, onchocerciasis presented a potential risk to public health in the region. In 1941, as valley clearing and resettlement proceeded during the anti-tsetse programme, a report compiled by a local official, and repeated in the central medical department's annual report, identified both sleeping sickness and onchocerciasis as causes contributing to famine in parts of the north.[8]

Despite persistent indications that the disease was present and posed a threat to northern communities, and despite a well-established body of knowledge regarding the disease and its transmission, the central government showed little interest in further investigation. Between 1912 and 1941, reports by northern medical officers which noted unusually widespread blindness, or directly confirmed onchocerciasis as a health risk, went almost entirely unpublished, until they were retrospectively discovered during the onchocerciasis 'emergency' of the early 1950s. The disease was briefly mentioned in the 1941 annual medical report, which noted that onchocerciasis had been identified as a public health problem during a survey of poor nutrition in the north, but only to say that the survey was 'not in a form suitable for general publication'.[9] This was the nutritional investigation by Dr F.M. Purcell, discussed in Chapter 1, which was suppressed by the government in Accra. As with sleeping sickness in the north during the 1920s, there was a long gap between the confirmation of widespread onchocerciasis infection by individual medics, and official recognition of the disease and its impacts. Even in 1950, when two systematic investigations (in 1945 and 1949) by concerned local medical officers had revealed serious onchocerciasis prevalence along Northern

7 1934-1935 MDAR, 86.
8 1941 MDAR, 2.
9 Ibid.

Territories river systems, the central Medical Department only reported trachoma and acute conjunctivitis as noteworthy causes of blindness in the region – after the Director of Medical Services had toured the north and met with Waddy, the officer who had conducted one of these surveys.[10]

As with sleeping sickness, it is interesting to consider what led to this disregard for reports of onchocerciasis as an important disease affecting northern peoples, especially since its significance was recognised in many other parts of colonial Africa by this time. There were investigations across the continent after 1932, when Hissette had confirmed that onchocerciasis caused blindness in the Belgian Congo. In British East Africa, regional medical departments held a symposium on the disease in 1943, and an expansive control programme using DDT spraying was launched in Kenya in 1947.[11] Onchocerciasis was known in West Africa too. In Upper Volta, across the border with the Northern Territories, wide areas of infection and related blindness had been identified in 1932 and confirmed by French medical officers between 1936 and 1938, and experimental larvicide control had already begun.[12] Through mass examination of African communities between 1939 and 1942, the French identified additional zones of serious infection in Upper Volta, in north-eastern Côte d'Ivoire - again bordering the Northern Territories - and in Togoland, Niger, and French Soudan (Mali).[13] The French had already concluded that widespread onchocerciasis infection must extend into the Gold Coast, as their own infected zones closely followed the colony's northern borders, but it would be ten years before this was acknowledged in

10 See NRG/8/13/11 (1949-57), Enc.7: Cheverton, 'Observations on the Medical Department following a tour', May 1950, 46.
11 GB/0809/Ross Institute/03/23/Vol.27 (1949) Waddy, 'Onchocerciasis', 4–7.
12 WHO/D67/AFR/ONCH.CONF/5 (1954) Onchocerciasis in French African Territories south of the Sahara (Submissions for Conference on African Onchocerciasis, Leopoldville, 1-6 October 1954), WHO Geneva, 2; WHO/D67/AFR/ONCH.CONF/7 (1954) Onchocerciasis in French West Africa: Work by Medical Officers of the Service General d'Hygiene Mobile et de Prophylaxie (Submissions for Conference on African Onchocerciasis, Leopoldville, 1-6 October 1954), WHO Geneva, 2–10.
13 WHO/D67/AFR/ONCH.CONF/5 (1954), 2–4.

the Gold Coast itself.[14] It is worth noting that this French knowledge of onchocerciasis infection was gained through a campaign against the same sleeping sickness epidemic that affected the Northern Territories. The General Autonomous Sleeping Sickness Service of French West Africa, led by Gaston Muraz, recognised the serious prevalence of onchocerciasis in the course of its sleeping sickness control programme.[15] This stood in contrast to the Northern Territories, where the sleeping sickness treatment campaign apparently obscured the extent of onchocerciasis infection by focusing personnel and regional resources on one disease, and the anti-tsetse valley clearances materially increased it.

As discussed in Chapters 1 and 2, the staffing demands and sustained costs of the northern campaign against sleeping sickness may have drawn attention away from other diseases affecting the region, while the Second World War, which fell in the middle of the campaign, further reduced the capacity of the health service to monitor and respond to any disease. In any case, the north and its particular diseases were often of little interest to the central government, or even to the Gold Coast Medical Department, until they impinged upon economic or political goals in Accra. This meant that multiple researchers were able to conduct name-making studies on onchocerciasis in the Gold Coast, over decades, and yet the disease was not locally recognised as a public health problem requiring attention. Submissions to a WHO conference in 1954, when onchocerciasis started to receive global attention, indicate that at least eight articles in international journals from 1875 to 1951 had depended on research in the Gold Coast.[16] British medics held conferences on the disease in East Africa, and colonies of white settlement like Kenya launched control campaigns, while French

14 WHO/D67/AFR/ONCH.CONF/7 (1954), 7.
15 WHO/D67/AFR/ONCH.CONF/5 (1954), 2–12.
16 WHO/D67/AFR/ONCH.CONF/3 (1954) Onchocerciasis in the Gold Coast (Submissions for Conference on African Onchocerciasis, Leopoldville, 1-6 October 1954), WHO Geneva, 9.

medical departments recorded that onchocerciasis infection was widespread just beyond the northern border. But these earlier reports of infection and advances in medical knowledge did not lead to an investigation in the Northern Territories.

Again, as with sleeping sickness in the 1920s, onchocerciasis first received significant attention when its impacts were felt in the south. The first investigation of northern onchocerciasis took place in 1945, driven by the discovery of the disease in military recruits from the north, who were examined at Accra before embarkation for the war. It was argued that 'African troops, many of whom are infected, may well carry the disease to South East Asia and the East Indies'.[17] The investigation was conducted by Major Harold Ridley, an ambitious physician who had joined the Royal Army Medical Corps and had been reluctantly posted to Accra. Ridley used time in the Gold Coast as a research opportunity: 'a blessing in disguise, for it was the period when he performed his original work in the field of tropical eye disease', and he was later hailed as a pioneer in the development of ocular implants.[18]

Ridley's study was primarily focused on the clinical manifestations of onchocerciasis-related blindness, and the article he published used Northern Territories people as a resource for illustrating the pathology of the disease. He tried unsuccessfully to persuade sufferers to allow him to aspirate microfilariae samples directly from their eyeballs, using large-bore needles, and considered that his expedition had partially failed when no blind person would allow him to remove their whole eyeball for study – Ridley had offered a pair of his spectacles in exchange.[19] This was an example of a colonial researcher using novel diseases in Africa to secure a reputation in London. Nevertheless, Ridley was evidently affected by the severity of

17 Harold Ridley, *Ocular Onchocerciasis, Including an Investigation in the Gold Coast* (London: Pulman, 1945), 8.

18 See D.J. Apple and J. Sims, 'Harold Ridley and the Invention of the Intraocular Lens.', *Survey of Ophthalmology* 40, no. 4 (1996): 279–92.

19 Ridley, *Ocular Onchocerciasis*, 40–41.

onchocerciasis that he encountered. In a paragraph on his host community, the town of Funsi in the north-west, he called for government intervention:

> Were it not for the eye disease the district might be relatively healthy … Though food is nearly always scarce no one starves, for they help each other. Were it not for this there would be little hope for the blind, who are an economic loss to the community. Surely such people deserve assistance to rid them of blindness, their chief scourge.[20]

Ridley had visited a single Sisaala town, Funsi, where he examined 300 people over the course of two weeks and found that approximately one-sixth were either blind or irreversibly going blind due to onchocerciasis.[21] The investigation was not mentioned in the Gold Coast's annual medical reports, or the northern government's annual administrative reports, and his findings did not give rise to any public health work by the colonial administration. Ridley himself thought that there would be little action against the disease unless an outside party took an interest, writing ‘it is to be hoped that at some future date the subject of onchocerciasis in Africa will attract the attention of a research organisation’.[22] But his study did have some effect: it caught the attention of a handful of concerned medical officers in the north, who cited it as the inspiration for later investigations.[23]

20 Ibid., 37.
21 Ibid., 44.
22 Ibid., 35.
23 GB/0809/Ross Institute/03/23/Vol.27 (1949) Waddy, ‘Onchocerciasis’, 4.

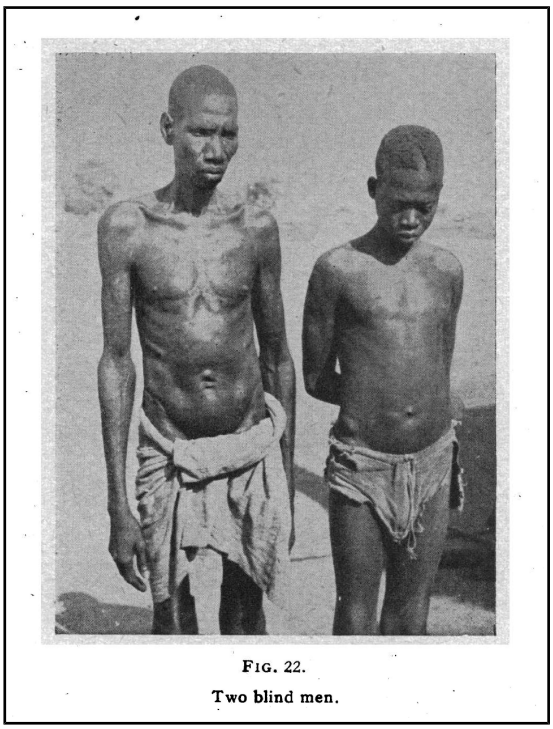

FIG. 22.

Two blind men.

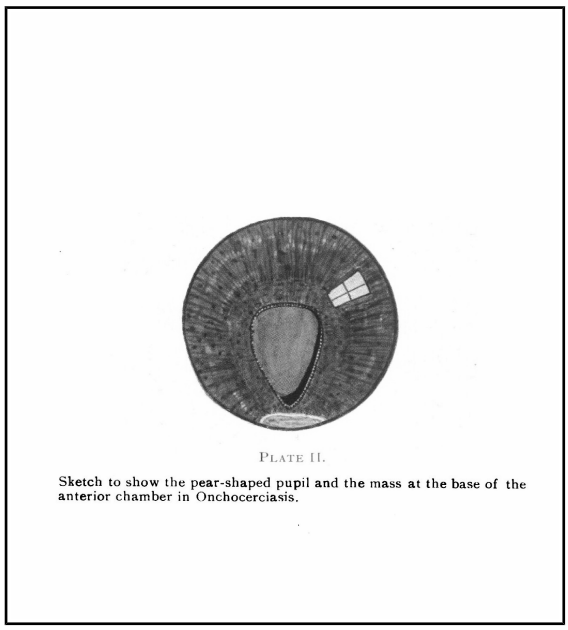

PLATE II.

Sketch to show the pear-shaped pupil and the mass at the base of the anterior chamber in Onchocerciasis.

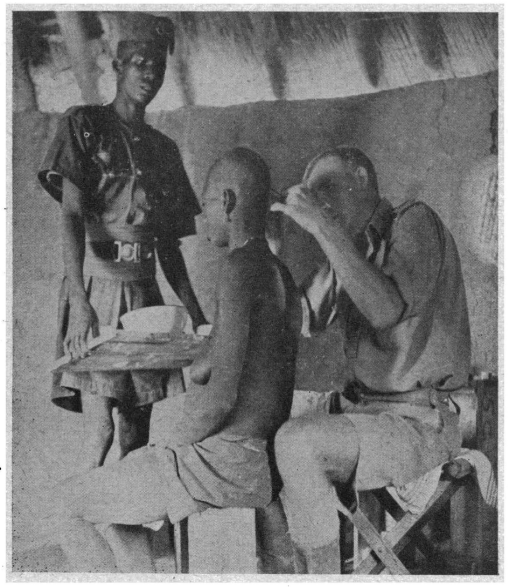

FIG. 26.

Bush surgery.

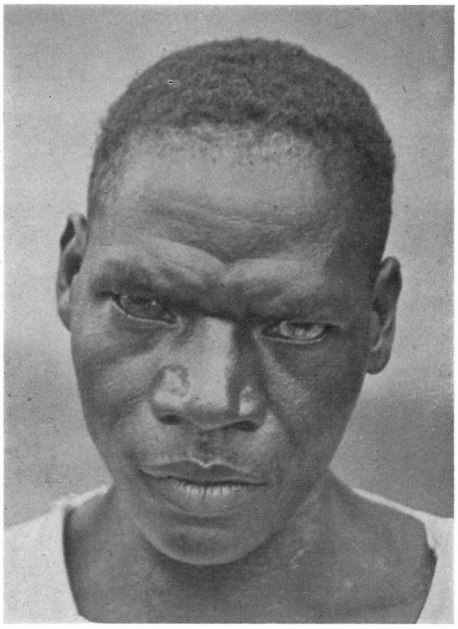

FIG. 16.

Blind patient showing corneal opacities (choroido retinal degeneration also present).

Figure 19. Images from Ridley's 1945 investigation of onchocerciasis in the north
Source: Ridley, 'Ocular onchocerciasis'

The relationship between tsetse control and onchocerciasis

By 1950, anti-tsetse bush clearance had been under way along northern water courses for more than 15 years. The project had begun with smaller scale clearings at river crossings and around settled areas, but under Morris it had expanded into a sweeping campaign for the clearance of Volta-system river valleys and their tributary streams, accompanied by a resettlement programme which encouraged people to move into the cleared areas, providing dams and access roads to make these areas attractive. The campaign promoted the idea that in these areas it was now possible for northern communities, in Morris' words, 'to live with impunity in the vicinity of permanent water'.[24] In the Kamba valley, the Tsetse Control Department had even tried to develop fishing as a principal economic activity.[25]

All of this had been done in ignorance of the risk from onchocerciasis, a disease with an infection rate which, unlike sleeping sickness, is strictly determined by proximity to running water. The tsetse flies which transmit human sleeping sickness require shade and woodland, often close to water, but can live and reproduce in any area where these and a mammalian food supply come together, in some cases far from river valleys.[26] But the *Simulium* blackflies that transmit the *Onchocerca* parasite require running water to breed, and infection rates from onchocerciasis decline with the distance of a community from a river or stream.[27] Morris's anti-tsetse campaign had resettled people directly into zones of increased onchocerciasis transmission, and by building dams it had also improved the breeding conditions for the insect vector: it has been demonstrated that dam spillways provide an optimal, well-oxygenated breeding

24 Morris, 'The Control of Trypanosomiasis by Entomological Means.', 4.
25 Grischow, 'Morris and Tsetse Eradication', 394.
26 J.A. Rozendaal, *Vector Control: Methods for Use by Individuals and Communities* (Geneva: WHO, 1997), 178–80.
27 Ibid., 18–20, 41–44.

environment for *Simulium damnosum* blackflies.[28] Even when settlements were not established in cleared areas, the campaign increased exposure to the disease by opening access roads to valley floors which had been cleared of dense vegetation, turning them into convenient low-lying routes for travel or for grazing livestock. As well as directly exposing surrounding communities to the disease, the changes brought by the mobile clearing campaign may have worsened the overall epidemiological picture for onchocerciasis and related blindness in the north, when increased transmission of the parasite in campaign areas contributed to a greater total number of people and blackflies hosting the parasite, amplifying the disease as both carried it to new districts away from the cleared valleys.

Morris' Tsetse Control Department was apparently uninformed about onchocerciasis, although the disease had for years been the subject of research interest and active control work, both within Britain's colonial health system and the broader transnational medical community. In Kenya, for example, the colony's medical department had also begun a campaign to clear the Kodera River valley of biting flies, so that people could be resettled there. But the flies it targeted were not tsetse: instead the campaign was against the *Simulium* blackfly vector of onchocerciasis, because in Kenya it was recognised that resettlement of such valleys was ‘an impossibility’ until the blackfly had been eradicated.[29] As noted above, authorities in neighbouring Upper Volta had reported widespread onchocerciasis infection and attempted control measures by the early 1940s. Despite various imperial conferences and memoranda from the health section of the Colonial Office, personnel working in one part of Africa were

28 See WHO/CPD67.4 (Archived 24 April 1968) Report On The Health Aspects Of The Land And Water Survey In The Upper And Northern Regions Of Ghana, FAO/UNDP Project 1962-1966, WHO Geneva, 7; WHO/D67/AFR/ONCH.CONF.1/17 (1954) Attempted methods of reducing the incidence of Onchocerciasis in Northern Gold Coast (Submissions for Conference on African Onchocerciasis, Leopoldville, 1-6 October 1954), WHO Geneva, 3.

29 GB/0809/Ross Institute/03/23/Vol.27 (1949) Waddy, ‘Onchocerciasis’, 4–7.

often uninformed about what was happening in relation to the same disease or control method elsewhere. In a region like the Northern Territories, where interventions took place with little coordination from the central government, let alone from London, colonial-era public health work was very much the product of individual officials, their theories, and the knowledge they did or did not possess. This was true even in the 1950s, and at times in northern Ghana after independence. Efforts at monitoring and controlling guinea worm in the north during the 1970s and early 1980s, for example, were sustained by the interest of one or two local physicians, as I discuss in Chapter 6.

The Tsetse Control Department not only worked in ignorance of an accumulating body of colonial knowledge about onchocerciasis. It also paid little attention to local knowledge of the disease among African communities, evident in colonial reports over decades, and encouraged people to act in contradiction of this knowledge. The campaign took place at a time when northerners were increasingly turning to state-sponsored healthcare, which had demonstrated its curative power against some of the region's most prevalent diseases, including drug treatments for malaria and yaws, and effective vaccination against smallpox. From the mid-1930s, the new sulphonamide antibiotics and then penicillin offered a new way to cure many serious diseases affecting northern subjects – during the meningitis epidemics from 1939, for example, the mortality rate fell from 80 percent to 10 percent of those infected.[30] Drug treatments for sleeping sickness were also considered to have won popular support for the government's broader health work, although this is more debatable.[31] The arsenic compounds used against the disease offered a relatively effective cure for an otherwise fatal illness, but they often caused permanent blindness as a side effect, and required careful preparation to deliver a safe dose. There were at

30 See Chapter 1
31 See 1935-1936 MDAR, 79.

least three catastrophic episodes during the north's sleeping sickness campaign when multiple people died after the injection of poorly prepared drugs.[32]

By the late 1930s, many observers reported that curative successes had increased the confidence of northern communities in the colonial healthcare system. These successes may have led people to trust the message promulgated by the bush clearing campaign: that it was now safe to spend time in river valleys, with further inducements in the form of agricultural equipment for those who settled there. But in promoting this message, as with planning the overall clearance and resettlement campaign, Morris and the Tsetse Control Department were apparently unaware of a substantial body of local onchocerciasis knowledge, which might have indicated to them why the valleys were previously avoided. At least northern communities were aware of the link between nodules caused by the *Onchocerca* parasite and eventual blindness, and they had effective ways of treating the condition. In 1928, a medical officer had recorded that villagers in the north-west had the same practical understanding of the disease as villagers in Guatemala, whose information had led Robles to first propose a link between the parasite and blindness:

> Both in Lawra and Tumu it is believed that the nodules of *Onchocerca volvulus* cause eye disease when situated on the scalp. For this reason a considerable number of people come to have them removed ... Native surgeons remove them by burning the skin and then extracting the tumours with a knife; this is often neatly done. The extraordinary fact of finding the same belief in Guatemala and in Lawra-Tumu calls for some remarks.[33]

This was a testament to the aetiological reasoning of people whose medical practices were often depicted as distinct from or less effective than those of

32 See CSO/11/16/79 (1942-43) Anti-Trypanosomiasis injections, deaths following, PRAAD Accra; CSO/11/19/11 (1937) Innoculation of people at Bawku for sleeping sickness, fatal respect of, PRAAD Accra; CSO/11/19/12 (1936-1938) Anti-trypanosomiasis injection, deaths at Navrongo following, PRAAD Accra.

33 1928 MDAR, 147, Appendix: Dr G.F.T. Saunders, 'Some interesting eye conditions, extracted from the Annual Report of the first travelling dispensary'.

biomedicine. In 1945, Ridley recorded the same understanding of onchocerciasis among Sisaala communities to the east, indicating that knowledge of the disease was not limited to one or two communities. He was also told that the nodules caused blindness, particularly when located on the head, and he saw cases where nodules had been removed by a local surgeon.[34] It has since been established that nodule location does influence the progression to blindness, which comes more rapidly when the adult parasite is resident in the head or neck, and that surgical interventions of this kind may be effective in slowing the disease.[35]

Northerners were also aware of the association between river valleys, biting flies and blindness, and this was why they settled and farmed at a distance from running water. In his landmark survey of the north, which first demonstrated the scale of the region's onchocerciasis problem, medical officer B.B. Waddy observed that 'the probability of going blind is consistently given by natives as their reason for not farming close to rivers where onchocerciasis is endemic. It is notable that practically no natives of the Northern Territories fish: such fishing as is done is by immigrants from the coast'.[36] The same long-standing knowledge was recorded among rural communities across the north after independence, who were visited by the Onchocerciasis Control Programme in the early 1970s:

> The interesting thing about the onchocerciasis – it was something that everybody, virtually everybody around knew. They knew that this is what was making the people blind, because they associated it with people staying by the river area. So when the programme came it was absolutely no problem in engaging the people.[37]

34 Ridley, *Ocular Onchocerciasis*, 45–57.
35 H. Fuglsang and J. Anderson, 'Further Observations on the Relationship between Ocular Onchocerciasis and the Head Nodule, and on the Possible Benefit of Nodulectomy.', *British Journal of Ophthalmology* 62, no. 7 (1978): 445–49.
36 GB/0809/Ross Institute/03/23/Vol.27 (1949) Waddy, 'Onchocerciasis', 10.
37 Dr Von Asigri, Interview, Tamale, 30 June 2015.

In Northern Nigeria, local onchocerciasis knowledge was taken into account by colonial authorities, at least in some cases. Here some communities also associated blindness with drinking river water: when the administration tried to convince people to move into abandoned valleys in the late 1940s, it found that 'the natives attribute the original depopulation of these areas to onchocerciasis, and resettlement will not be accepted until onchocerciasis is controlled'.[38] This stood in contrast to the Gold Coast Tsetse Control department. Its work was shaped by Morris' belief that sleeping sickness had led to the abandonment of watercourses, and its resettlement policy operated on the basis that river valleys had been made safe for habitation. The implications of this misunderstanding are revealed in the onchocerciasis infection data that was compiled in two successive surveys conducted in 1949 and 1952-55: the first by Waddy, a concerned local medical officer, the second funded by the British Empire Society for the Blind. This latter survey, which covered colonies across Africa, showed that the Northern Territories had the highest levels of onchocerciasis infection worldwide.[39]

Here Northern Nigeria makes another useful counter-example. Apart from the upper Sahelian edge of Northern Nigeria, the two regions span the same latitudes and are comparable in terms of climate, ecology and the presence of many diseases. In Nigeria the colonial administration had also undertaken a tsetse clearing and resettlement project, but on a more limited scale, using methods which reduced exposure to onchocerciasis infection. This was the Anchau Scheme in Zaria Province, implemented by the entomologist T.A. Nash from 1938 to the late 1940s.[40] The project

38 WHO/D67/AFR/ONCH.CONF/4 (1954) F.H. Budden, The Distribution Of Onchocerciasis In Northern Nigeria And Its Importance As A Cause Of Blindness (Submissions for Conference on African Onchocerciasis, Leopoldville, 1-6 October 1954), WHO Geneva, 6.

39 See F. C Rodger, *Royal Commonwealth Society for the Blind: Blindness in West Africa* (London : Lewis, 1959).

40 See T. A. Nash, *The Anchau Rural Development and Settlement Scheme.* (London: Pub. for the Colonial Office by H.M.S.O., 1948); G. Jones, 'Review: The Anchau Rural Development and

cleared and resettled a tsetse-free corridor covering 712 square miles, less than the 1,500 square miles that were reported to have been cleared on the Northern Territories' Kamba valley alone. Crucially, the Anchau resettlement villages were constructed at some distance from water, around concrete wells intended to reduce the need for communities to risk infection by entering valleys.[41] In the Northern Territories, however, the Tsetse Control Department instead built dams in the valleys to provide water, with spillways which provided an optimum breeding habitat for the blackfly, and which compelled people to constantly visit these breeding sites. When the British Empire Society for the Blind surveyed Northern Nigeria and the Northern Territories for total blindness, the differences were evident. In Northern Nigeria, 0.8 percent of the population were found to be blind. In northern Ghana the number of the blind was more than three times higher, at 3 percent, with approximately sixty percent of this blindness estimated to have been caused by onchocerciasis.[42] This immediately became a headline figure in global activity against the disease, quoted by charities, transnational organisations and governments, making northern Ghana the regional 'poster child' for a newly recognised public health emergency.[43]

By the early 1950s, serious levels of endemic onchocerciasis were being discovered across West Africa, and it is likely the disease would have been widespread in the north, even in the absence of anti-tsetse clearance and resettlement. But in survey data from the late colonial period, it is striking how closely zones of the most severe

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Settlement Scheme', *Africa* 19, no. 2 (1949): 161–63; and for details of later schemes in Nigeria, which operated alongside onchocerciasis control, see David Bourn, 'Tsetse Control, Agricultural Expansion and Environmental Change in Nigeria' (Thesis, University of Oxford, 1983).

41 See Jones, 'Review: Anchau Scheme', 161–63; and Reuben Udo, 'Sleeping Sickness and the Anchau Settlement Scheme', in *Geographical Regions of Nigeria*, ed. Reuben Udo, (London: Heinemann, 1981), 157–59.

42 'Review: Blindness in West Africa by F.C. Rodger', *British Journal of Ophthalmology*, no. 44 (1960): 128; Rodger, *Blindness in West Africa*, 81.

43 See, for example, NRG/8/13/44 (1961-1967), Encs.64-100: Information packs and plans for World Health Day 1962, Theme 'Blindness'; UK House of Commons Debate: Onchocerciasis and Trypanosomiasis, Hansard vol.651 cc.1317-28, 19 December 1961.

onchocerciasis infection can be mapped onto the activities of the Tsetse Control Department. The 1952 survey indicated that the single worst-affected location in West Africa was the valley of the Kamba river, where Morris had begun his clearance work and where resettlement and dam building had been sustained for the longest time. More than one in ten people living here were blind from the disease: 12.6 percent of all adults and children. The Kamba was described in international reportage and fund-raising publications as West Africa's 'Valley of the Blind', and northern Ghana as the 'Country of the Blind'.[44] The *Simulium* blackfly was found to be breeding in large numbers below the laterite dams that had been constructed on the river and its tributaries during the resettlement campaign – the Kamba subsequently became the initial focus of efforts to eradicate the disease in the north, and continued to be a principal focus of onchocerciasis control work into the 1960s.[45]

Similarly high rates of onchocerciasis infection and blindness were found in the Damongo area, another centre of Tsetse Department clearance and resettlement, where its work had proceeded alongside a large-scale colonial project to boost groundnut production.[46] bush clearing, dam building and resettlement had been underway for more than six years by 1953, when the British Empire Society for the Blind's onchocerciasis survey arrived.[47] The survey found that people who lived and farmed in the areas cleared by the anti-tsetse campaign had significantly greater onchocerciasis infection rates (over 20 percent of population) than those who lived in

44 For example John Wilson, 'Blindness in the Commonwealth', *Journal of the Royal Society of Arts* 108, no. 5042 (1960): 122–23; 'Valley of the Blind Found in Africa', *The Southeast Missourian*, 30 January 1954.

45 WHO/CPD67/AFR/ONCH.CONF.1/17 (1954), 3; G.K. Noamesi, 'A Progress Report on the Control of Simulium Damnosum in Northern Ghana', *Ghana Journal of Science* 4, no. 2 (1962): 165–68; WHO/05/181/14 (1969) Grant in respect of onchocerciasis studies, WHO Geneva, p.145, Report of Dr Noamesi to WHO, July 1969.

46 For details of this scheme see Grischow, 'Late Colonial Development'.

47 See NRG/8/13/16 (1949-1955), Enc.10: 'Tsetse Control, Gonja Development Area', Tsetse Control Department Report, 29 January 1952; and Enc.15: Report on an Investigation carried out at Damongo, 17-31 March 1952.

the old town of Damongo itself, 4km distant from the cleared Sorie River system (at 5 percent of the population), indicating that the resettlement programme had brought people into closer contact with the disease.[48] It is possible that the parasites may have been carried to some new areas by the anti-tsetse campaign itself, as clearance teams were moved between relatively isolated valleys and villages. Bush clearance and resettlement proceeded in the Damongo area (Western Gonja District) until independence in 1957, and the prevalence of the disease worsened. In the early 1960s, a WHO study recorded that the district was among the most severely affected by onchocerciasis in northern Ghana, with up to 25 percent blindness in some villages: here dam-building had also increased the breeding habitat for *Simulium* blackflies.[49]

Beyond these two examples there were many further strong overlaps between anti-tsetse work and high onchocerciasis infection at various sites. These included the Kulpawn valley and its tributaries, notably the Sissili River, the White Volta system which runs north of the Gambaga escarpment, and almost all river valleys of the far north-west. Here, by 1953 the Tsetse Control Department reported that it was clearing 'the last important river', with re-clearance and additional dam building under way on several rivers that had previously been cleared.[50] From the available sources it is impossible to definitively conclude that the tsetse control programme was responsible for high rates of infection and blindness in the north, relative to other areas in the Gold Coast or neighbouring colonies. Onchocerciasis was being recognised as a serious disease across West Africa at this point, and infection would likely have been widespread in any case. But in the areas where it operated, and across the Northern Territories as a whole – by transporting potentially-infected staff from district to

48 The Sorie River now appears on maps as the Laboni River. WHO/D67/AFR/ONCH.CONF/3 (1954), 4–13.
49 WHO/CPD67.4 (1968), 4–9.
50 NRG/8/13/16 (1949-1955), Enc.34: 'Half Yearly Progress Report', Tsetse Control Department, Wa, 29 October 1953.

district; opening valleys for grazing and passage; building dams and access roads; resettling people directly into the valleys; and spreading the message that rivers were now safe – it seems possible that Morris's Tsetse Control Department unwittingly and significantly increased the prevalence of onchocerciasis.

It is worth asking how onchocerciasis was neglected in northern Ghana for so long, although it was increasingly well known elsewhere in colonial Africa, and how the anti-tsetse campaign was able to proceed for years with a project that evidently exposed people to the disease. As I have argued previously, the roots of these problems lie in the peripheral situation of the north, regarded as a region of low economic importance (unlike the areas cleared in Kenya or Uganda), with African populations that had little or no political influence on the colonial administration (unlike Northern Nigeria). Stemming from this general marginality, there were several proximate factors which meant that anti-tsetse policy was never called into question. Perhaps most importantly, the Tsetse Control Department functioned as an independent unit of the Gold Coast government, with its own staff and budget. It reported principally to the Department of Agriculture, with limited oversight from either the Gold Coast Medical Department or the Northern Territories administration. Correspondence from the early 1950s shows the extent to which the campaign had operated in isolation from local officials. For several years, the north's Chief Regional Officer (previously Chief Commissioner) tried to obtain a full report from the Tsetse Control Department on its activities in the region. But details of these activities were only issued in 1954, when the Ministry for Agriculture (created on the eve of independence, and under the leadership of a Ghanaian), intervened directly to request the information.[51] The extent of anti-tsetse work came as a surprise to the north's government. Among other things, it

51 Ibid., Ministry of Agriculture to Director of Tsetse Control, 26 March 1954.

discovered that the Tsetse Control Department had started to enact a plan for the mass shooting and driving out of wild game in the north-west. The Chief Regional Officer's reply indicates the extent to which the Morris' department had operated without local oversight:

> The long delay in informing me of the measures which the Department is taking towards tsetse control in central Gonja is unnecessary. The lack of such information handicaps me in giving consideration to problems of general development. I am in a similar difficulty over other aspects of the Department's work ... I am not aware that the Minister has approved any policy for the wholesale driving of game from vast areas of the country and I shall be grateful to know what is the Minister's policy in this matter. I understand that the method to be employed is the wholesale extermination of those larger antelopes which object to going quietly to their new home, and I am not clear how this is to be reconciled with the Wild Animals Preservation Ordinance.[52]

There appears to have been similarly little oversight of the tsetse control campaign from the Medical Department at Accra, and apart from Morris, himself a medical entomologist, there was no local medical oversight of its work in the north. Staffing levels meant that some of the rural areas where the campaign operated were rarely visited by other Medical Department staff during the late colonial period, with 'only one medical officer (two before the war) being available for the entire Northern Territories west of the White Volta-Sissili line'.[53] This was precisely the region where anti-tsetse work had been most active. The location of work within the Department for Agriculture suggests another reason why the clearance and resettlement scheme was not called into question: because Morris's ideas tallied with the economic goals of the administration, unrelated to human disease or public health. To use Grischow's term, the government had for decades been seeking a way to correct what it saw as the 'maldevelopment' that had led communities to avoid the most productive valley land.[54]

52 Ibid., Enc.25: 'Tsetse Control Policy', CRO NTs to Ministry of Agriculture and Natural Resources, 5 March 1954.
53 GB/0809/Ross Institute/03/23/Vol.27 (1949) Waddy, 'Onchocerciasis', 27.
54 Grischow, 'Morris and Tsetse Eradication', 394.

The long-run history of public health in northern Ghana shows some repetition in this regard. Well-meant solutions to economic problems, championed by bodies outside of the public health system, posed similar risks to the health of northern people after independence. In the mid-1960s, for example, the WHO became aware that another United Nations agency, the Food and Agriculture Organisation, was collaborating with Ghana's Ministry of Agriculture to survey the north in advance of a vast dam building and irrigation scheme, involving large-scale resettlement and with the similar aim of improving agricultural production. The WHO intervened to modify the project, noting that Ghana's Ministry of Health had never been consulted in the FAO's proposal, and that the north's water-related diseases had again not been taken into account.[55]

In the absence of official knowledge about onchocerciasis, Morris's proposal had seemed to offer a solution to a long-standing problem. His well-funded campaign ran for years with little oversight, the product of ecological and developmental theories which disregarded relevant local knowledge of disease, and vested a great deal of intellectual and practical power in a single well-intentioned but misinformed individual. It was perhaps unsurprisingly that relevant African knowledge was discounted: this appears to have been a principle established in the early days of tsetse control. In instructions issued to the Gold Coast government in 1914, for example, the Imperial Bureau of Entomology had emphasised that entomologists 'should in no case rely on native evidence' when investigating the distribution of tsetse and other biting flies.[56] But failure to identify the risk from onchocerciasis, during the 15-year anti-tsetse campaign, also indicated the gaps in institutional knowledge which separated the various departments of the colonial government. These were particularly pronounced in

55 See WHO/CPD67.4 (1968).

56 ADM/56/1/46 (1904-1927), Enc.50: 'Investigation Into The Habits And Distribution Of The Cattle Tsetse Flies', Instructions from Imperial Bureau of Entomology, 1914.

a remote region like the north, where low funds and staffing meant there was little possibility for even incidental supervision of independent projects.

It is nevertheless surprising that nobody commented on the confluence of the anti-tsetse bush clearing campaign, extensive blindness and local knowledge regarding the abandonment of river valleys. The colonial sources record no recognition that the Tsetse Control Department's clearance and resettlement campaign may have exposed people to the disease, although some individuals raised implicit criticisms of the project. Once onchocerciasis in the Northern Territories started to receive international attention in the mid-1950s, the idea that valleys had once been abandoned due to sleeping sickness was quite suddenly considered 'very far-fetched': it was now 'known' that onchocerciasis had driven people away.[57] In 1952, a few months after the survey team from the British Empire Society for the Blind had begun working in the region, showing the Kamba valley to have the highest known levels of infection in Africa, Morris retired from the Gold Coast and the colonial service.[58] Despite the correlation, there is no indication that his departure had any connection to the survey's revelations about the disease, and many British personnel were leaving the colony at this time. The low importance and staffing accorded to the north meant that the relationship between tsetse control and onchocerciasis may simply have gone unnoticed. As with sleeping sickness in the late 1920s, there might also have been an official reluctance to recognise potentially costly health problems in the region. Shortly before he died in 1981, retired northern medical officer B.B. Waddy recalled that when he presented the results of his 1949 onchocerciasis survey to the Gold Coast's Director of Medical Services, he was

57 WHO/D67/AFR/ONCH.CONF/3 (1954), 4–13.
58 NRG/8/13/16 (1949-1955), Encs. 10-24: Correspondence between Tsetse Control Department and NTs administration, January-November 1952.

‘accused of being a madman’, and that the 'very existence' of onchocerciasis in the north was denied for many years.[59]

Gaps in institutional knowledge became more pronounced as independence approached and various colonial employees left the Gold Coast, taking with them specific knowledge about patterns of regional disease and the organisation of local health services. For the Ghanaian health officials who succeeded the colonial administration, the independence transition constituted a significant informational gulf. The same has been true for historians of Africa. Many sources do not cross the division, and so researchers working on one or the other period are in some sense blinded to connections between them. For the Northern Territories, as with most of the country, few colonial medical officers remained after independence.[60] The results of this disjuncture were evident immediately after independence. In 1959, for example, a researcher on onchocerciasis in northern Ghana complained that no nutritional survey had been done of the region, which might help him gauge the effects of Vitamin A deficiency on blindness. In fact there had been a survey of this specific deficiency in 1936, a general nutritional survey of the north in 1941, and a number of smaller studies on the same subject, but they do not appear to have been published outside of the colonial bureaucracy. With the departure of medical staff, the information had been lost to view.[61]

The gulf between colonial and post-colonial sources, or between colonial-era sources buried in the administrative archive and those which gained wider circulation through publication in scientific journals, also appears to have affected one of the

59 Waddy made these comments in 1977, at a symposium for former colonial health workers. See E.E. Sabben-Clare et al., eds., *Health in Tropical Africa during the Colonial Period: Based on the Proceedings of a Symposium Held at New College, Oxford 21-23 March 1977* (Oxford: Clarendon Press, 1980), 165.

60 See Chapter 3

61 C.M. McLean, ‘Ocular Onchocerciasis in Northern Ghana: A Treatment Survey’, *British Journal of Ophthalmology* 43, no. 8 (1959): 477–85.

foundational studies of onchocerciasis after independence. The geographer John Hunter's 1966 study, 'River Blindness in Nangodi, Northern Ghana', has been seen as a landmark in its field.[62] His research was influential in international work against the disease, to the extent that it was influential in the formulation of onchocerciasis control policy in the Americas.[63] Drawing on oral interviews, an analysis of lineages, and contemporary settlement patterns, Hunter proposed that northern Ghanaian communities had cyclically moved into valleys where onchocerciasis was present, and then retreated to uplands away from infection as their productive capacity fell through increasing blindness, before returning to valleys as upland soil erosion led in turn to underproduction and hunger. Using interviews and evidence of abandoned settlements, he presented a precise calculation of the rate of advance and retreat, suggesting that people had begun entering northern river valleys in the 1890s, remained until around 1918 when blindness began to take its toll, and had then retreated by around a mile each year until the time of his research.

There are two possible problems with Hunter's study, beyond its disconcertingly precise calculations of the dates and rate at which communities were retreating from onchocerciasis infection each year (which seem difficult to sustain without additional data), and his assumptions about the organisation of northern society in the nineteenth century (which make guesses about population behaviour from one or two oral histories, as Morris had done for sleeping sickness). His broader thesis about advance and retreat is persuasive, but additional credit should have been given to earlier research. Hunter's study makes a passing reference to Waddy as a local medical officer who had conducted a colonial onchocerciasis survey, leaving a 'cyclostyled

62 John Hunter, ‘River Blindness in Nangodi, Northern Ghana: A Hypothesis of Cyclical Advance and Retreat’, *Geographical Review* 56, no. 3 (1966): 398–416.

63 WHO/05/87/8 (1974-1975) Onchocerciasis: Pan-American Health Organisation Conference, 1974, WHO Geneva, Enc.3: WHO Division of Malaria and Other Parasitic Diseases to Dr M. Martins da Silva, Chief of Department of Research Development and Coordination, PAHO, 2 May 1975.

report' which received a brief footnote.[64] But Waddy had made Hunter's core argument in 1949, in an extensive discussion which accompanied his survey data. Using past census returns, Waddy presented a detailed statistical analysis of 'the rise and fall of population and blindness in 77 towns and villages in the Tumu District', arguing that:

> The result is not only that the population is retreating from its water, but that farms are cleared further and further back from the rivers and up into watersheds, giving rise to rapid increase of soil erosion ... the effect on the community's manpower is devastating and liable to result in disaster if two or more difficult farming seasons follow one another.[65]

The intention here is to point out that an acknowledgement was missed, or that Waddy's arguments were overlooked. The second problem with Hunter's study is more indicative of the gulf affecting colonial and postcolonial knowledge of the region. For his theory to work, there had to be no long-standing African knowledge about the link between river valleys and onchocerciasis, and he argued this was the case: that in 1966, 'it seems probable that until about 10 years ago there was no awareness of a causal relationship between riverside farming and a higher incidence of morbidity'.[66] This assertion, which seems to link northern communities' first causal knowledge of onchocerciasis to the start of control work in the mid-1950s, was evidently made without recognition of colonial-era sources which indicated that the disease was known to northern communities. This had been made plain in Waddy's survey, which observed that 'the probability of going blind is consistently given by natives as their reason for not farming close to rivers where onchocerciasis is endemic'.[67]

64 Hunter, 'River Blindness', 405.
65 GB/0809/Ross Institute/03/23/Vol.27 (1949) Waddy, 'Onchocerciasis', 29; WHO/D67/AFR/ONCH.CONF/3 (1954), 5.
66 Hunter, 'River Blindness', 413.
67 GB/0809/Ross Institute/03/23/Vol.27 (1949) Waddy, 'Onchocerciasis', 10.

The recognition and internationalisation of northern onchocerciasis

As colonial anti-tsetse work ground to a halt, it was replaced almost directly by a major campaign against onchocerciasis, in identical areas and with many of the same organisational forms and practical techniques. The disease's serious impacts had first been suggested by Ridley's survey in 1945, carried out because infection among northern military recruits had raised concerns at Accra. Although Ridley's findings generated no further investigation or action from the Gold Coast administration, they were noted by Waddy, who had arrived in the Gold Coast in 1937, and was subsequently promoted from district medical officer to deputy director of medical services for the Northern Territories. When no action took place, Waddy organised his own onchocerciasis survey in 1949, on a much wider scale. He used a range of evidence to make his case that the disease posed a serious public health risk, including direct physical examinations in multiple northern communities, and through a comparison of the total rate of blindness recorded in the 1931 and 1948 census returns for more than 70 settlements in the Tumu district.[68]

On Waddy's tour of the north, carried out over two months in 1949, he examined over 4,000 people via skin-snip tests at larger villages and their satellite communities. His investigation revealed an average onchocerciasis infection rate of almost 60 percent in these communities, with particularly high rates recorded on the Kulpawn river system, where more than 70 percent of all people were infected.[69] Waddy's conclusions about this 'appalling state of affairs', where the onset of blindness began at around thirty years of age, were expressed repeatedly throughout his report:

> The economic and social plight of the inhabitants could hardly be worse. They are gradually fading out in disease and semi-starvation ... The vicious spiral down which they are sliding is all too plain; less energy – less land farmed –

68 Ibid., 9.
69 Calculated from Waddy's data. Ibid., 12–25.

> less food – even less energy. As an example of their present condition it is sufficient to mention that while I was there a herd of Roan antelopes milled around all one night in the crops right in front of a Headman's compound, ruining them, while no attempt whatsoever was made to drive them away or to kill some for meat.[70]

Waddy had conducted the survey on his own initiative, and when it was completed he tried to raise a call for government action, couching this in terms of cost savings and potential economic benefits:

> I consider that the elimination of onchocerciasis as soon as possible is vital to the future of the NT's, and I wish to stress that the problem is urgent. It is notoriously difficult to take a balanced view of a subject in which one is intensely interested, and I submit the facts that I have endeavoured to establish for the judgement of others … the victims are mostly men in the prime of life, who are completely disabled but may live on for more than 20 years. Its elimination, therefore, would add not to the population to be supported, but to the working efficiency of the population.[71]

No action was taken: under an administration where the 'very existence' of the disease was denied, Waddy was ‘accused of being a madman’.[72] But, like Ridley, his work caught the attention of others, this time of an organisation which worked beyond the institutional biases and operational control of the Gold Coast administration. This was the British Empire Society for the Blind, created in 1950 as a collaboration between the Colonial Office and an older Victorian charity, the Royal National Institute for the Blind.[73] Like earlier charitable organisations focused on the colonies (for example the British Empire Leprosy Relief Association, founded in 1924), the British Empire Society for the Blind evolved into an independent advocate for health in Africa and Asia. It was able to mobilise popular and political opinion, and independent funding, in Britain itself, and so could bypass the Gold Coast's administrative inertia. The society's

70 Ibid., 11, 19.
71 Ibid., 30.
72 Sabben-Clare et al., *Health in Tropical Africa*, 165.
73 Wilson, ‘Blindness in the Commonwealth’, 125.

founder John Wilson, himself blind, read Waddy's paper on the Northern Territories and travelled to the region in the early 1950s. Struck by the severe impacts of the disease, on his return to London he popularised the term 'river blindness' as a more accessible name for onchocerciasis, and raised funds for a multi-year survey of the disease.[74] The society's researchers spent almost three years in West Africa, revealing the full extent of the disease across the region, with northern Ghana the worst affected area of all. Infection rates had continued to rise since Waddy's investigation, and the survey found that 'in many, the majority, of the villages surveyed, every person over 20 was infected'.[75] With these conditions, northern Ghana became a constant referent for the Society. Its work in turn became a template for fundraising to support charitable activity in Africa, and perhaps also for an abiding way of depicting African communities and African disease. As Wilson remarked in 1960, the entire cost of the survey was funded by voluntary donations, 'from thousands of individuals who were moved by the story of West Africa's "Country of the Blind"'.[76]

These surveys had revealed the serious extent of an 'unknown' disease on the very eve of Ghana's independence. They were indicative of a shift in the focus of public health, towards locally important diseases, and they also heralded a sea-change in the system by which public health in the north was managed and funded. As the colonial healthcare system ended, and most of its medical personnel returned to the UK, work against onchocerciasis marked the arrival of a new source of medical authority, the WHO, which would remain a constant presence and often a direct intervenor in the arrangement of the region's public health. Onchocerciasis also brought increased involvement by the non-government aid sector which, apart from a small number of

74 WHO/D67/AFR/ONCH.CONF.1/19 (1954) 'Epidemiological factors in endemic onchocerciasis areas in the northern Gold Coast', by F.C. Rodger (Submissions for Conference on African Onchocerciasis, Leopoldville, 1-6 October 1954), WHO Geneva, 5–6.
75 Ibid., 6–7.
76 Wilson, 'Blindness in the Commonwealth', 124.

churches, had been largely absent from the region during the colonial period. The disease attracted some of the first of what would become many hundreds of charities and aid organisations operating persistently in the region. In 1957, perhaps driven by the political transition in Ghana, the state most central to its work and fundraising, the British Empire Society for the Blind became the Royal Commonwealth Society for the Blind.[77] In 1986, it became 'Sightsavers', the transnational NGO, which has now been present in northern Ghana for more than 60 years.[78]

In the years after this survey, onchocerciasis rapidly became a subject of international discussion among health agencies and charities, politicians, and broader publics. In these discussions the disease, and those infected in the north, were represented in a number of ways: as a public health emergency requiring specific medical action; as a horrifying example of disease in Africa which raised charitable funds or sold newspapers; or as an example of the failings of colonialism and/or independent African states. In 1961, a debate in the British House of Commons drew on many of these representations, revealing changes and continuities as Africa was decolonised. Having returned from a visit to West Africa, where he had visited projects run by the Royal Commonwealth Society for the Blind, the MP Lesley Hale raised criticisms of British inaction regarding onchocerciasis. He argued that Britain was abdicating its responsibility to newly independent people faced with infection contracted under British administration:

> I decided to put down Questions to find out in detail what Her Majesty's Government were doing in this matter … the answer, in verbose detail, was 'Nothing'. 'I am not my brother's keeper' says the Secretary for Technical Cooperation. 'These people have self government; they should do it themselves.'[79]

77 Ibid., 25.
78 Kate Bennell, 'Seven Decades of Sightsavers' Work', 16 January 2017, Accessed 24 June 2017, https://www.sightsavers.org/.
79 HC Deb (19 December 1961) v.651, c.1320.

In his parliamentary questions, Hale made the observation that in West Africa, bush clearance against tsetse had 'shown that the destruction there does not greatly affect the Simulium fly', another implicit recognition of the link between the anti-tsetse campaign and the rise of onchocerciasis.[80] With some irony, the government's response, delivered by Secretary for Technical Cooperation Dennis Vosper, turned in detail to the anti-tsetse campaigns and ongoing research on trypanosomiasis, as an example of Britain's continued good works in Africa, and as an explanation for inaction against onchocerciasis:

> I wish to refer particularly to one of the two diseases named in the subject of tonight's debate, trypanosomiasis, because I think that it is against the background of the progress made in respect of that disease and because it is, perhaps, the better known of the two, that one can see the progress which still must be made in respect of [onchocerciasis].[81]

Vosper also pointed to colonial-era British work against onchocerciasis in East Africa, which had begun in the 1940s when the disease was still unacknowledged in northern Ghana, as an example of British action against the disease. He suggested that it was the governments of Ghana and other independent West African states that were impeding work against onchocerciasis in the region, saying that Britain would be 'only too willing' to help if they applied for assistance.[82]

The debate indicated the rifts that had formed in the administration of public health in northern Ghana over the independence transition. New governments in West Africa found themselves with limited staff and reduced institutional expertise regarding their own disease problems. In the independence-era political climate they may also have been reluctant to apply for assistance from their former rulers, at a time when they

80 Ibid., cc1320-1323.
81 Ibid., cc1324-1328.
82 Ibid.

were being courted by many other world powers, notably the Soviet Union.[83] In Britain, priorities for technical assistance in health appear to have been shaped by returning medical staff who had left before they became familiar with the emerging onchocerciasis problem, and by an older and enduring focus of colonial health policy: sleeping sickness and tsetse control. Sleeping sickness was no longer a public health emergency in West Africa, but it remained an inherited focus of British medical knowledge regarding the region.

As Britain disengaged from independent Ghana, the centre of advocacy and action shifted strongly towards charitable organisations, in particular the Royal Commonwealth Society for the Blind (RCSB), which shaped action against onchocerciasis in northern Ghana between independence and the late 1960s, when it was supplanted by the WHO in tandem with the Ghana government. The RCSB was itself emblematic of the disengagements and continuities between the colonial and post-colonial eras. Vosper, Britain's Secretary for Technical Cooperation, was in fact its vice-president, alongside its founder, John Wilson. In Wilson's public engagements in Britain, he described the organisation as a bridge between Britain (as a former colonial power) and independent Africa, and a symbol of the new Commonwealth idea:

> Our relationship with Governments is such that it is difficult to say where voluntary action ends and official action begins … it reaches forward to an association which goes well beyond the formal links of Government or the requirements of strategy and trade. Such a wish can find its most natural expression in an organization such as ours, which has nothing to do with politics but has much to do with basic uncontroversial human needs.[84]

Wilson considered that non-governmental organisations like the RCSB, although it had been founded by the Colonial Office and had a British Secretary of State as vice-president, were well placed to guide onchocerciasis control and other

83 See Gocking, *History of Ghana*, 129.
84 Wilson, 'Blindness in the Commonwealth', 130–31.

public health work across the political cleavages of the independence transition. In a question and answer session at the Royal Society he said:

> You say 'now the Empire is disintegrating'; I would rather say, 'as the Commonwealth evolves' … I do not think it made the slightest difference when Ghana became independent. I really do not think that at our unofficial level these political difficulties which one encounters in so many other respects have much meaning.[85]

In the early 1950s, the RCSB was pivotal in drawing attention to the onchocerciasis crisis in northern Ghana, when the Gold Coast administration had neglected the disease – the phenomenon of NGOs working to fill gaps in healthcare, apart from or even in opposition to local government, was not a new feature of independent Africa states. Despite its roots in Britain's 'disintegrating Empire', the Society carved out a place as an independent metropolitan advocate for Africa health issues that were largely unknown to the British public. This proved politically acceptable to the CPP government, permitting a continuation of close RCSB involvement across the transition, and for a time it became directly involved in northern onchocerciasis control. The Society oversaw and funded early control initiatives, and trained individuals who later became important to the Ghanaian government's own control work. Even by the late 1960s, as the WHO became more closely involved with onchocerciasis control in the country, eclipsing all other institutions working locally on the disease, it continued to rely on maps and disease distribution data from the RCSB.[86]

Here was a good example of how imperial institutions morphed into NGOs which remained persistently involved in healthcare in independent Africa. The RCSB's early work situated onchocerciasis as a foundational 'neglected' disease affecting

85 Ibid., 131.

86 WHO/05/180/2 (1964-1973) Onchocerciasis: Geographical Distribution, WHO Geneva, Enc.14: Dr Gockel, WHO Communicable Diseases Division, to Mr Wilson, Royal Commonwealth Society for the Blind, 12 March 1968.

African people, with northern Ghana as its foundational endemic area. As Cross et. al. have argued, onchocerciasis in Africa subsequently became a template for the broader paradigm of 'Neglected Tropical Diseases', a mobilising theme for many health-focused NGOs.[87] But in its efforts against onchocerciasis, the RCSB also established a much imitated template for advocacy and fund-raising work. It formulated and consistently deployed a particular representation of African disease and African people, one which became widely used, perhaps with enduring implications for Western perceptions of the continent.

From the outset, the RCSB and John Wilson worked to shape public perceptions of the disease in Britain. For a start, this involved coining a new name for onchocerciasis, the formerly 'unpronounceable scourge'. 'River blindness' was less of a mouthful. Although many infected people did not become blind, and instead experienced other serious symptoms, parasite-induced blindness was emphasised as a disturbing outcome in publicity material by the RCSB and later by the WHO.[88] In this material, a consistent and typical description of affected African communities and individuals also began to emerge, as indicated by the following quotes from various sources:

> In the northern Gold Coast [there are] one million people, the bulk of whom during the time when the flies are breeding almost everywhere, work close by from dawn to dusk, naked and intent on their job, easy victims. It is not difficult to see why onchocerciasis flourishes in this sad part of the world … I have seen blind working in the fields during the rains, and there is no doubt that in some places they are led out for that purpose, each holding the stick of the man in front.[89]

> Northern Ghana is an area which without much exaggeration has been called "the country of the blind" ... In some of the stricken villages, where a tenth of

87 Catherine Cross et al., 'From River Blindness to Neglected Tropical Diseases—Lessons Learned in Africa', *PLOS Neglected Tropical Diseases* 9, no. 5 (2015): e0003506.
88 See, for example, Wilson, 'Blindness in the Commonwealth'.
89 WHO/D67/AFR/ONCH.CONF.1/19 (1954), Enc.19: RCSB Presentation, 3,7.

> the people are blind, a hemp rope guides the women to the well and the men plant in straight lines along a length of bamboo. The community has for so long lived under the menace of the disease that they have come to regard blindness as normal, and are frankly surprised that the authorities nowadays make so much fuss about it … I have described these communities not from any wish to horrify but because, in a talk which attempts to see this problem on a Commonwealth scale, it is so easy to lose sight of the people behind the statistics.[90]

> The term "the Dark Continent" is indeed based upon a terrible truth. If we examine the figures for villages, or tribes, we find that their tragedy may easily be lost sight of in the striking averages, which often hide more than they seek to reveal. In some villages of Northern Ghana the blindness rate is not the Western European figure of one in 500, but one in 10.[91]

> Most [villagers in north-east Ghana] seem to be stoically resigned to a fate of poverty, malnutrition, blindness, and disease, with the forces of an inhospitable environment gradually gaining the upper hand. For a population seasonally hungry and never far from starvation, blindness, striking a man in his prime, is a calamity.[92]

In publicity materials, some of which found their way to northern Ghana itself, contrasts were drawn with the 'technically and socially advanced countries of Western Europe, Australia and North America', where individuals like Helen Keller, 'the world's most famous blind citizen', refused to resign themselves to their fate.[93] With the boom in mass media consumption after the world wars – in newspaper readerships, and particularly with the growth of television ownership in the 1950s – these descriptions of African disease were disseminated more widely than had been possible for earlier twentieth-century charitable organisations. They may also have found a more receptive audience in American and European publics attuned to developments in Africa during the independence years. Publicity films, like the World Bank's 'A Plague

90 Wilson, 'Blindness in the Commonwealth', 122–23.
91 NRG/8/13/44 (1961-1967), Encs.64-100: WHO Information packs and plans for World Health Day 1962, Theme 'Blindness'.
92 Hunter, 'River Blindness', 405.
93 NRG/8/13/44 (1961-1967), Encs.64-100: WHO Information packs and plans for World Health Day 1962, Theme 'Blindness'.

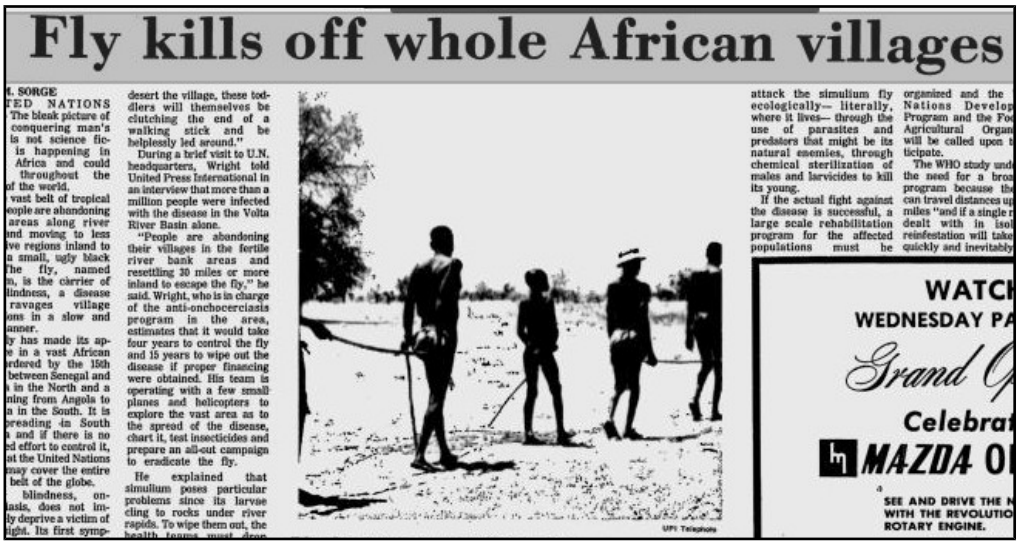
Upon the Land', were made to accompany the campaigns against the disease.[94] A search of the limited range of scanned articles available online, from the late 1940s until the beginning of the expansive WHO Onchocerciasis Control Programme in the mid-1970s, shows that onchocerciasis in Africa was reported widely in print media over this time. The disease generated headlines even in small provincial newspapers: from 'Blind in Paradise' (*The Milwaukee Sentinel)* and 'Jungle Expedition Planned to Fight African Blindness' (*The Toledo Blade*) to 'Valley of Blind found in Africa' (*South East Missourian),* 'Villages of the Blind' (*The Virgin Islands Daily Register*), 'Fly kills off whole African villages' (*Boca Raton News*) and 'Scourge of the Flies' (*Sarasota Journal*).[95]

Onchocerciasis in Africa was temporarily a source of media sensation, making use of a shared idiom for disease in Africa that had partly been developed by the RCSB, with northern Ghana as its central exemplar. Publicity materials from the RCSB and WHO were re-written in the media, and reportage followed their descriptions closely: the blind being led into the fields with sticks, and stricken villages of dusty people unable to effect change themselves, resigned to the tragedy of disease. Europeans who visited infected areas in northern Ghana were clearly affected by what they saw there, and justifiably motivated by a sense that urgent action needed to be taken. But it is interesting to consider how through this advocacy and fundraising work, and the language it employed in attempting to show 'the people behind the statistics', onchocerciasis in northern Ghana contributed to a changing conception of the continent. As nineteenth and early twentieth century representations of Africa as savage

94 The World Bank, *A Plague Upon the Land* (United Nations Division of Public Affairs, 1983).

95 Among many other similar articles of the period. 'Blind in Paradise', *The Milwaukee Sentinel*, 29 October 1956; 'Jungle Expedition Planned to Fight African Blindness', *Toledo Blade*, 22 May 1952; 'Village of the Blind', *The Virgin Islands Daily Register*, 8 February 1958; 'Fly Kills off Whole African Villages', *Boca Raton News*, 15 October 1972; 'Scourge of the Flies', *Sarasota Journal*, 9 March 1977.

and dangerous receded, these depictions now presented its people as supine and pitiable.



Fly kills off whole African villages

4. SORGE
TED NATIONS
The bleak picture of conquering man's is not science fic- is happening in Africa and could throughout the of the world.
vast belt of tropical eople are abandoning areas along river nd moving to less ive regions inland to n small, ugly black The fly, named n, is the carrier of lindness, a disease ravages village ons in a slow and ainer.
ly has made its ap- e in a vast African rdered by the 15th between Senegal and in the North and a ning from Angola to n in the South. It is preading in South and if there is no ed effort to control it, st the United Nations may cover the entire belt of the globe.
blindness, on- asis, does not im- ly deprive a victim of ight. Its first symp-

desert the village, these tod- dlers will themselves be clutching the end of a walking stick and be helplessly led around."

During a brief visit to U.N. headquarters, Wright told United Press International in an interview that more than a million people were infected with the disease in the Volta River Basin alone.

"People are abandoning their villages in the fertile river bank areas and resettling 30 miles or more inland to escape the fly," he said. Wright, who is in charge of the anti-onchocerciasis program in the area, estimates that it would take four years to control the fly and 15 years to wipe out the disease if proper financing were obtained. His team is operating with a few small planes and helicopters to explore the vast area as to the spread of the disease, chart it, test insecticides and prepare an all-out campaign to eradicate the fly.

He explained that simulium poses particular problems since its larvae cling to rocks under river rapids. To wipe them out, the health teams must drop

attack the simulium fly ecologically— literally, where it lives— through the use of parasites and predators that might be its natural enemies, through chemical sterilization of males and larvicides to kill its young.

If the actual fight against the disease is successful, a large scale rehabilitation program for the affected populations must be

organized and the Nations Develop Program and the Foo Agricultural Organ will be called upon t ticipate.

The WHO study und the need for a broa program because the can travel distances up miles "and if a single r dealt with in isol reinfestation will take quickly and inevitably

Figure 20. 'Fly kills off whole African villages', *Boca Raton News*, 15 October 1972
Source: *Boca Raton News,* hosted at http://www.bocahistory.org/newspapers/

Figure 21. 'A victim of river blindness being led to his village'. Publicity image for the WHO Onchocerciasis Control Programme, January 1974
Source: United Nations Photo/Ray Witlin

The Onchocerciasis Control Programme and international involvement in northern health

In the years immediately before and after independence, the RCSB had a leading role within northern Ghana itself, beyond its international advocacy. The outgoing British administration did not attempt any sustained programme of onchocerciasis control, along the lines that it had attempted in Kenya in the 1940s. Although the 1951 Maude Commission on the Health Needs of Ghana received petitions from northern chiefs calling for investigations of widespread blindness, it made no specific observations regarding onchocerciasis. Waddy's survey, which had shown the disease to be a serious health problem in 1949, also appears to have been discounted. Maude's report provided the basis for independent Ghana's health system, recommending systemic reforms and listing diseases of high priority, and the omission of onchocerciasis as a priority may have stalled action against the disease. The commission's recommendations were accepted by the new government of Ghana, a year before the British Empire Society for the Blind publicised the first findings of its West African blindness survey.[96]

Although onchocerciasis was not the subject of any systematic prevention policy under Ghana's transitional health system, research and preliminary control work did take place before the WHO campaign of the 1970s. A programme of DDT larvicide treatments on the Kamba river was overseen by entomologists working for the British Empire Society for the Blind, who in 1953 were able to enlist the staff of the anti-tsetse campaign to carry out the work.[97] But control efforts remained local and experimental until after independence, carried out by individual officers on a limited scale. Large-scale control projects elsewhere in colonial Africa, in the 1940s and 1950s, had

96 See NRG/8/13/18 (1951-1964).
97 WHO/CPD67/AFR/ONCH.CONF.1/17 (1954), 1–8.

established a method which aimed to kill off fly larvae populations and limit the disease's spread. One of the most expansive efforts took place along the Congo River at Leopoldville (now Kinshasa) in 1948, where a section of the vast river and its banks was treated intensively with DDT from an aircraft over three months. This temporarily eradicated the fly and eliminated infection, although re-spraying had to be carried out annually. Further significant DDT control programmes were launched in Kenya (1948), Uganda (1952), Nigeria (1955), Chad (1955), and Sierra Leone (1957).[98]

Figure 22. Simulium fly research shortly on the Black Volta before independence, northern Ghana, January 1957
Source: TNA, Colonial Office photographic collection CO 1069-53-72

98 See WHO/05/89/1 (1956-1960) Onchocerciasis Control Measures, WHO Geneva; A.W. Brown, 'A Survey of Simulium Control in Africa.', *Bulletin of the World Health Organization* 27 (1962): 511–27.

Independent Ghana's own Simulium Control Unit was established in 1957, under the entomologist G.K Noamesi. It began with a three-year programme of research in the north-west, which by that time was consistently reported as the worst-affected onchocerciasis area in Africa. In 1960 the unit began a larvae control initiative on the Kamba and Bekpong Rivers, and on sections of the Black Volta itself.[99] This operated until 1962, at the same time as work started on the Akosombo Dam. As with other major hydrological projects in Africa at this time, the creation of Lake Volta intensified concerns about the spread of water-related diseases, although it ultimately reduced the incidence of onchocerciasis over a large area towards the south-east.[100]

Noamesi's report on *Simulium* fly control in Ghana, published in an early issue of the *Ghana Journal of Science* (first published in October 1961), showed the evolution of Ghana's internal capacity for research and public health action, a reflection of government policies towards self-sufficiency and 'Africanisation' of key posts.[101] But even as this local capacity developed, the national economy faltered in the early 1960s, and transnational organisations came to play an increasingly central role in public health and economic projects. By 1965 there were several large WHO health projects operating in Ghana, including TB and bilharzia control programmes and the unsuccessful Malaria Pre-Eradication Project, and a further 29 projects under the United Nations Expanded Programme for Technical Assistance (EPTA). Most of these were focused on the south, but they included preparatory work on a massive water supply and resettlement scheme for northern Ghana.[102] In the 1960s, the north was also part of the extensive West Africa Rinderpest Eradication Campaign, organised by the

99 Noamesi, 'A Progress Report on the Control of Simulium Damnosum in Northern Ghana', 157–68.
100 WHO/D67/AFR/ONCH.CONF/3 (1954), 13; WHO/CPD67.4 (1968), 7–10.
101 Gocking, *History of Ghana*, 95–103.
102 See WHO/CPD67.4 (1968).

Organisation of African Unity and funded by the United States, an early attempt to eliminate the cattle disease across the region.[103]

The relatively short duration of Ghana's initial onchocerciasis control programme, limited to the north-west, may have been the result of the new nation's economic problems, which intensified after 1961. Local initiative also appears to have receded with the expansion of WHO activity against the disease. In 1962 the WHO annual working budget was almost doubled, to US$30 million. The raised budget brought a concomitant expansion in the organisation's mandate, which now included an 'accelerated programme of assistance' to African states, including direct operational assistance, the training of national staff, and the planning of public health policy.[104] This was a watershed moment for the increased involvement of the WHO in Africa, a new source of medical authority which expanded into independent Ghana as its economic problems intensified in the 1960s. It is interesting to note that Ghana at this time held a seat on the executive board of the WHO, allowing it to introduce subjects for discussion at the World Health Assembly. In 1962 the submission of Ghana's representative, C.O. Easmon, was informed by the ideologies of nationalism and modernisation underpinning independence-era politics. He warned that the WHO should not seek to transplant its methods 'indiscriminately from one part of the world to another', and argued that Ghana's people had an obligation to give up 'long-cherished prejudices' as they embraced medical science.[105]

As its budget was expanded, the WHO began in-country research on onchocerciasis in Ghana and across West Africa, in the first steps towards its Volta

103 G.R. Scott and A. Provost, *Global Eradication of Rinderpest* (Edinburgh: Food and Agriculture Organisation, 1992), ch.1.

104 (US$843 million in adjusted 2016 pounds. NRG/8/13/44 (1961-1967), Enc.115: Report on 15th World Health Assembly, 8-25 May 1962; also see WHO Programme Budget, accessed April 6, 2016, at http://www.who.int/about/finances-accountability/budget/; and for pound adjustments: https://www.measuringworth.com/uscompare/relativevalue.php.

105 Ibid., Enc.115: Report on 15th World Health Assembly, 8-25 May 1962.

Basin control programme of the 1970s.[106] After independence there appears to have been relatively little overt concern about northern onchocerciasis among Accra-based health officials, however, and this became increasingly apparent as the WHO's involvement in Ghana increased. From the early 1960s a permanent WHO team was based in the country to conduct fly and infection surveys, although it did not carry out larviciding or other control work. Instead the organisation was focused on preliminary research for a long term control programme covering the entire Volta basin, including neighbouring countries, with the aim of preventing recolonisation by flies from untreated areas.[107] After 1965 the WHO set out to co-ordinate all onchocerciasis research across West Africa, and as part of this it provided funding to Ghana's Simulium Control Unit, established in 1957 under G.K. Noamesi, and renamed the Onchocerciasis Research Unit after 1962: an indication of how state-led disease control work was reduced after 1963.[108] With WHO support, the Onchocerciasis Research Unit was tasked with researching the movement patterns of the blackfly, and with devising a new dry-season larvicide campaign to limit the spread of infection among northern communities. But the unit was disbanded in 1968, on the orders of the National Liberation Council, which governed after the 1966 coup against Nkrumah. Noamesi was dismissed, although he had been the government's only trained entomologist.[109]

As I discuss further in Chapter 5, the history of the Onchocerciasis Research Unit shows how public health work in northern Ghana could be shaped by political instability, southern bias and the pull of outside funding. In the period between 1962 and 1966, Noamesi and his unit put together a detailed and costed plan for control of onchocerciasis in the north, covering all dry-season breeding sites, but they were not

106 Ibid., Enc.138: Report on 16th World Health Assembly, 7 May 1963.
107 WHO/CPD67.4 (1968), 5–7.
108 See Chapter 5
109 See Chapter 5, and WHO/05/181/14 (1969).

given permission to proceed with the work. The unit complained that it never received an allocation of trained staff. In his correspondence with the WHO during the late Nkrumah period, Noamesi argued that the Ghanaian government was uninterested in the disease, and suggested that the WHO might pressure it to 'see the importance of a total attack on Simulium as soon as possible'.[110] After the coup in 1966, he took a more openly combative approach, in which he evidently relied on his links with the WHO as backing in a confrontation with the military-run NLC. He wrote a memorandum to the regime titled 'The Extent of Onchocerciasis in Ghana Should Concern Us All', arguing that the country had become 'a bitter experience and a disappointment to the world' for not following through with his unit's proposed control campaign. Noamesi requested that the government give him permission, as a member of the WHO Expert Committee on Onchocerciasis, to 'approach on behalf of Ghana all world bodies interested in the control of onchocerciasis, for the balance of funds and other resources necessary'. In making his case, he tried to show that the disease presented a threat outside of the region, arguing that 'the belief that onchocerciasis and the blindness due to it belong to the north of Ghana has been disproved', and listing southern areas at risk.[111]

His arguments, emphasising the risk to the south, were similar to those of concerned colonial-era medical officers trying to convince Accra to act against northern disease. Noamesi's dismissal by the NLC was perhaps inevitable, given this combative approach, although the disbanding of the Onchocerciasis Research Unit indicated a broader lack of interest regarding the disease. But despite his calls to action, Noamesi also to some extent personified the south-centred nature of Ghana's health system. From 1965 to 1969 his research against onchocerciasis was supported by the WHO,

110 Ibid., Enc.23: 'Progress report on research in Ghana for improving knowledge of the bionomics of Simulium Damnosum, 1964-1966', Report from Dr G.K. Noamesi to WHO, November 1966.
111 Ibid., Enc.37: 'The Extent of Onchocerciasis in Ghana should concern us all', memorandum from Dr G.K. Noamesi to the Health Committee of the National Liberation Council, 9 April 1966.

which provided funds and equipment, including vehicles and boats, on the basis that Noamesi's work (as the focus of Ghanaian state efforts) would be coordinated with WHO personnel working in the region.[112] This funding was cut off in 1969, when it became clear that Noamesi had been dismissed by the Ghana government a year previously. He had attempted to use his WHO connection to carve out a position of power within the Ghana health system, apparently believing that the independent funding and prestige of this linkage would insure him against local politics.[113] More damningly, certainly from the perspective of northern communities affected by onchocerciasis, it turned that Noamesi did relatively little work in the north itself. Local WHO personnel reported that he conducted his research by 'remote control' from his offices in Accra, using auxiliary northern personnel, and that his descriptions of ambitious dry-season fly control measures could not be substantiated.[114] When a Canadian WHO consultant asked Noamesi to support a study on the disease in 1966, it turned out that under the conditions of Ghana's economic downturn, the government's operation in the north was defunct and its vehicles inoperational, and no funding had been provided to match the WHO contribution. The Ministry of Health proposed that the WHO could instead conduct research close to Accra, hundreds of miles from the infected areas.[115]

Under conditions of economic privation and poor government funding in the late 1960s, the funding offered by the WHO for northern onchocerciasis work was understandably attractive to public health officials in Accra. The recession also

112 Ibid., Enc.71: Dr Gockel, Division of Communicable Diseases, WHO, to Dr Noamesi, 8 November 1967.
113 Ibid., Enc.168: Letter from J.D. Marr, WHO Entomologist, Ghana, to N. Ansari, Division of Communicable Diseases, WHO, 12 March 1969.
114 Ibid., Encs.94-99: Correspondence between P.D. Scheffel, WHO AFRO-131 team leader, Ghana, and G.W. Gockel, Division of Communicable Diseases, WHO, March 1968.
115 Ibid., Enc.36: MoH Accra, to C.W. Gockel, Division of Communicable Diseases, WHO, 29 June 1966.

undermined local government initiatives like the north-west DDT control programme, which was shelved in 1962. In these years the low economic importance of the north may again have reduced the government's motivations for funding an annual campaign aimed at limiting the further spread of infection in northern communities. In East Africa, on the Victoria Nile in Uganda, and on the Congo River alongside Leopoldville, DDT larviciding was carried out repeatedly to protect revenue-generating areas, even when the flies were liable to recolonise an area the next season. In northern Ghana, recognised since 1953 as one of Africa's worst affected areas, little systematic control work took place between 1962 and the early 1970s – a decade of relative inaction and continued infection, as successive governments waited for the WHO's sweeping Volta Basin programme to commence.

WHO involvement in northern onchocerciasis control continued after the dismissal of Noamesi and across the overthrow of Nkrumah. With a policy of remaining studiously apolitical, the WHO maintained its presence as governments changed abruptly, specialist units were shuttered and local experts were dismissed. In addition to its financial and technical resources, this persistence and relative immunity to local politics was another mechanism by which the WHO came to be a major – perhaps the major – source of institutional knowledge on northern onchocerciasis and other northern diseases, beyond any Ghanaian unit or individual government employee. The organisations approach to funding, with domestic initiatives only supported if they were carried out in coordination with the WHO's own activities, may have also constrained the development of Ghana's own efforts regarding the disease. In this period, however, the principal factor affecting the development of onchocerciasis control in the north remained the political situation at Accra. Although the WHO operated at a remove from local politics in Ghana, this did not mean its work was

unaffected by political developments. In August 1969, for example, the organisation wrote to the government to demand that the vehicles and funds it had donated to Noamesi's unit should remain allocated to onchocerciasis work, as they appeared to have disappeared into Ghana's broader health system.[116] This was a time of intense political activity at Accra, as groups aligned sometimes by ethnicity, or by their relationship to the previous Nkrumah government, sought to gain support in advance of a general election at the end of August. The election installed the civilian government of the Second Republic, under Kofi Busia, which ruled for two years through continued economic decline, until it was overthrown by another coup d'etat in 1972.[117]

A new *modus vivendi* was established for northern onchocerciasis control under this military government, led by General Ignatius Acheampong, which operated as the National Redemption Council and then the Supreme Military Council from 1972-1979, when it was overthrown in the first Rawlings coup. Despite its authoritarianism and complex layers of bureaucracy, in which each government ministry was overseen by a military Commissioner, the Acheampong government embarked on a number of initiatives to improve health provision in Ghana, and it was responsive to WHO requirements for the onchocerciasis programme.[118] This was noted during community interviews in the north, where the Nkrumah, Acheampong and second Rawlings governments were consistently remembered as those which oversaw the greatest local improvements in health provision.[119] The transnational Onchocerciasis

116 Ibid., Encs.169-179: Correspondence between WHO Epidemiological Advisory Team on Onchocerciasis and MoH, Accra, March-August 1969.
117 Gocking, *History of Ghana*, ch.9.
118 See WHO/P9/445/8/GHA (1973-1975).
119 See, for example, Group.04: Tindonmoligo Village (Guruni), Interview 28 July 2015; Group.03: Sherigu Village (Guruni), Interview, Upper East, 28 July 2015; Group.02: Dua Village (Guruni), Interview 27 July 2015; Group.08: Dulugu Village (Guruni), Interview 29 July 2015; Group.16: Dagomba Community 1, Tamale Area, Interview 10 August 2015; Group.17: Dagomba Community 2, Tamale Area, Interview, Northern Region, 10 August 2015; Group.10: Muriwie Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.14: Piisi Wala Community, Wa Area (Wala), Interview 8 August 2015.

Control Programme began in 1974, and was present in northern Ghana for more than a decade, operating through the first and second Rawlings coups (1979 and 1981), and the brief civilian Third Republic under Hilla Limann (1979-1981). Following a period of entry and negotiation between 1957 and 1972, the primacy of the WHO as an external force on Ghana's health system had been established, in a form which would continue until the late 1980s. Other bodies which had been influential in shaping independence-era disease control policy and initiating government action – like the RCSB in the late 1950s – became less important.

The Onchocerciasis Control Programme (OCP) of the 1970s and 1980s was operated by the WHO in tandem with local governments in West Africa, and largely funded by the World Bank.[120] Several researchers have depicted the campaign as emerging from a revelatory moment in 1972, when World Bank president Robert McNamara visited the Volta Basin and was struck by the poverty caused by the disease.[121] But although the World Bank spearheaded the funding effort, it is clear that plans for the Volta Basin programme had been present for years, emerging from collaborations between the WHO and African health officials from the early 1960s: the narrative of Bretton Woods heroism obscures an effort of greater duration, which was stalled for a decade or more by the recessions and political upheavals that followed independence in Ghana and other African states. The campaign used helicopters and ground crews to treat river systems with larvicides, and in 1988 this was supplemented by the distribution of a new drug treatment for the disease, Ivermectin – originally

120 For a general description and timeline of the campaign, see B. Boatin, 'The Onchocerciasis Control Programme in West Africa', *Annals of Tropical Medicine & Parasitology* 102, no. sup1 (2013): 13–17; World Health Organization, *Success in Africa: The Onchocerciasis Control Programme in West Africa, 1974-2002.* (Geneva: World Health Organization, 2002).

121 World Bank, 'The Extraordinary River Blindness Partnership Sets Its Sights on New Goals', accessed 7 April 2016, http://www.worldbank.org/en/news/feature/2014/07/03/forty-years-later-the-extraordinary-river-blindness-partnership-sets-its-sights-on-new-goals; A. Crump, C.M. Morel, and S. Omura, 'The Onchocerciasis Chronicle: From the Beginning to the End?', *Trends in Parasitology* 28, no. 7 (2012): 280–88.

developed for parasitic infections in dogs, but which was found to be exceptionally effective against onchocerciasis and other filarial diseases. The drug's creator, Merck & Co, agreed to provide treatment free to all affected countries.[122] By 2002, onchocerciasis was considered to have been eliminated as a significant public health risk in ten of the 11 countries where the programme had operated, including Ghana.

Northern Ghana was one of the first regions to control onchocerciasis through the OCP, with only 'mopping up' work remaining by the mid-1980s. Like other contingent responses to particular disease emergencies, before and after 1957, the campaign left a lasting legacy in the broader provision of public health. The Northern Region's only parasitology laboratory, still operating in Tamale at present, was built as a headquarters for the Onchocerciasis Control Programme, and subsequently became a base for the eradication programme against Guinea Worm sponsored by the Carter Foundation.[123] The OCP also offered employment and research funding for northern Ghanaians, some of whom remained in the region as experts shaping the provision of public health. Others used the WHO connection as a springboard to leave the country, including two of the programme's three Ghanaian entomologists employed in the north.[124]

By 1984, the attention of international donors had turned to 'socioeconomic development in the areas freed from onchocerciasis' in northern Ghana, and the Onchocerciasis Control Programme supplanted by a proliferation of expansive state-donor developmental projects, arriving after Ghana's turn towards IMF-World Bank structural adjustment in 1983. These included the Ghana-German Agricultural Development Project (GGADP); the US-sponsored Economic and Rural Development

122 S. Omura and A. Crump, 'The Life and Times of Ivermectin - a Success Story.', *Nature Reviews: Microbiology* 2, no. 12 (2004): 984–89.
123 Dr Von Asigri, Interview, Tamale, 30 June 2015.
124 Ibid.; and WHO/08/181/l8 (1975) CTS Agreement with University of Ghana for electrophonetic Determination of Simulium Damnosum Complex, WHO Geneva.

Management Programme (ERDM); the Farmer Associations and Agricultural Business Development (FAAD), co-funded by the US and the Catholic Church; the World Bank-funded Upper Region Agricultural Development Project (URADEP); and the Northern Regional Rural Integrated Programme (NORRIP), 'a long-term project of cooperation between the governments of Ghana and Canada, to effect socioeconomic structural changes of living of the rural poor'.[125] Onchocerciasis was gone, the country was under leadership favoured by donor states, and aid workers had arrived in large numbers.

Figure 23. 'Young girls carrying pots with water from the community well'. UN publicity image on development in the areas freed from onchocerciasis in West Africa, 1 May 1983
Source: United Nations Photo / 32846

125 WHO/JCP Volumes/5-6 (1980-85), 25–29; and Jon Kraus, 'The Struggle over Structural Adjustment in Ghana', *Africa Today* 38, no. 4 (1991): 19–37.

Through great effort, sustained over decades of financial, environmental and human costs, two diseases – sleeping sickness and river blindness – had ceased to pose a serious threat to people in northern Ghana. Fifty years after sleeping sickness had been brought under control, WHO reports argued it was 'obvious' that onchocerciasis had been the cause of valley depopulation and a source of the north's economic stagnation. Two serious diseases had been greatly reduced, but widespread poverty remained, and the north remained on the periphery of Ghana's economy and politics. In the language used in 1980s reports, celebrating how the north was 'freed' from onchocerciasis, it is possible to detect a repetition – almost a verbatim reproduction – of the entomologist K.R.S. Morris in the 1940s, as he worked to free the north from sleeping sickness:

> Whereas earlier development projects had been centred on the upland areas because the valleys were disease ridden, the Onchocerciasis Control Programme had as one of its major objectives freeing the valleys, in order to open these areas up for farming and general economic development. The success of the Programme will help to relieve population pressure on the upland areas through resettlement of the valley areas, and thus improve the quality of life in the whole region.[126]

Conclusion

This chapter, and Chapter 2, have explored the connections between public health interventions over long periods of time. A campaign against sleeping sickness in the colonial period unwittingly intensified the infection of northern communities with onchocerciasis, which led on to a post-independence campaign that encompassed many of the same areas, actions, and developmental objectives. Northern Ghana's persistent marginality meant that colonial sleeping sickness went unrecognised until it impinged on the southern economy, and also that onchocerciasis infection only became a matter of concern when a metropolitan charity became involved on the brink of independence.

126 WHO/JCP Volumes/5-6 (1980-85), 20.

The north's peripheral situation allowed Morris's bush clearing to proceed with little oversight: his proposals were accepted not only because of the immediate sleeping sickness epidemic, but because they offered a way for the administration to achieve its longstanding goal of re-distributing the northern population. At independence, institutional knowledge of northern disease was lost as medical personnel departed, and onchocerciasis control was held up in the turmoil of political transitions and economic recession from 1966 to 1972. The two chapters have also attempted to describe the shifting locations of medical authority over the century: the dissolution of colonial oversight of public health, the emergence of charities and advocacy groups which constituted a linkage between the colonial era and NGOs operating in independent Ghana, and the rise of the WHO as an important actor and determinant of national policy in the decades since independence. The chapter has also briefly examined how the mass-media methods used to raise awareness of onchocerciasis internationally, which often relied on northern Ghana as an example of the disease's worst effects, may have played an early part in constructing an idiom of African suffering that continues to shape conceptions of Africa societies in the present.

Blindness was the most noticeable effect of widespread onchocerciasis, but its systemic impact on northern communities was probably much greater. Recent research, which tracked the health of 300,000 people in West Africa between 1971 and 2001, suggests that populations burdened by a heavy microfilarial load – the presence of onchocerciasis parasites in the skin and tissues - experience an excess mortality rate of around 5.2 percent, independently of the incidence of blindness.[127] The persistent high transmission of onchocerciasis over decades in the north, exacerbated by the anti-tsetse campaign and by a lack of control efforts until 1974, may have contributed to

127 M.P. Little et al., 'Association between Microfilarial Load and Excess Mortality in Onchocerciasis: An Epidemiological Study.', *Lancet* 363, no. 9420 (2004): 1514–21.

further divergence in the health and productivity of the north relative to the south, even when other interventions (the provision of better education, for example) were seeking to narrow this gap.

What is missing from this account are the experiences of northern people who suffered from onchocerciasis or sleeping sickness, or who witnessed the sweeping control measures against each disease. However, it is interesting to note that in the memory of many interview subjects across the north, these two diseases have become elided, and both are being forgotten as the threat they pose recedes. In some communities, I met people who had worked on the anti-tsetse campaign as teenagers or children – they remembered seeing or hearing about 'Dr Morrow', and his stringent requirements for bush clearing. Very few communities remembered encountering anyone who suffered from sleeping sickness, however, and in general only older people were familiar with the symptoms of the disease. For younger people, these often sounded like a joke.[128] In the first decades of colonial rule, officials recorded that a number of northern communities treated sleeping sickness as a grave affliction – 'the people considered the disease shameful and kept those suffering from it confined to a hut on the outskirts of the village. Those dying of it were denied the ordinary burial, and before burial the bones of their right hand were broken and the hand bent back'.[129]

By the late 1930s, as the medical campaign had success in treating the disease, it was observed that 'the former widespread practice of separate burial for victims of trypanosomiasis is now dying out'.[130] During my interviews, most questions

128 Group.12: Busa Wala Community 1, Wa Area (Wala), Interview 8 August 2015; Group.13: Busa Wala Community 2, Wa Area (Wala), Interview 8 August 2015; Group.16: Dagomba Community 1, Tamale Area, Interview 10 August 2015; Group.18: Dagomba Community 3, Pong-Tamale, Interview 11 August 2015; Group.10: Muriwie Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.14: Piisi Wala Community, Wa Area (Wala), Interview 8 August 2015.

129 1937-1938 NTAR, 72; see also 1925-26 MDAR, 61–70 Appendix E: Report on sleeping sickness in the Lawra District.

130 1935-1936 MDAR, 79; see also 1933-1934 NTAR, 86.

about disease control pertaining to rivers, or diseases spread by biting flies (as opposed to mosquitoes or other insects) were answered with 'oncho'. Some people insisted that Dr Morrow's colonial-era work, on the same river valleys, had also been part of the onchocerciasis programme. Many people recalled the decades of onchocerciasis control work, particularly the helicopters marked 'ONCHO' which dusted rivers with larvicide, which were often remembered as a cause of fear when they appeared unexpectedly at low levels, dispersing white spray. By 1985, communities around northern Ghana had lived through 50 years of near-constant control and survey work along their river valleys. But in 2015, onchocerciasis as a disease was also being forgotten, and other causes of blindness and itching were more prominent sources of concern for old and young interview subjects.[131] In a sense this shows the achievements of the colonial era fight against sleeping sickness, and the post-colonial campaign against onchocerciasis. Both reduced the disease which they set out to control. Despite various unintended consequences, forgetting is the result of this success.

131 See Group.12: Busa Wala Community 1, Wa Area (Wala), Interview 8 August 2015; Group.13: Busa Wala Community 2, Wa Area (Wala), Interview 8 August 2015; Group.16: Dagomba Community 1, Tamale Area, Interview 10 August 2015; Group.18: Dagomba Community 3, Pong-Tamale, Interview 11 August 2015; Group.10: Muriwie Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.11: Naachenyiri Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.14: Piisi Wala Community, Wa Area (Wala), Interview 8 August 2015; Group.15: Chomvula and Gonja community, Bole Area, Interview, Northern Region, 9 August 2015; Group.03: Sherigu Village (Guruni), Interview 28 July 2015; Group.06: Tanzul Village (Guruni), Interview, Upper East, 29 July 2015; Group.05: Yorogo Village (Guruni), Interview, Upper East, 28 July 2015.

CHAPTER 5

Visions of self-sufficiency to visions of adjustment: public health in northern Ghana beyond the independence era

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This chapter completes the narrative and analytical arc begun in Chapter 1 and continued in Chapter 3, by examining the changing contexts for public health in northern Ghana from 1966 to 2000. I begin by discussing northern healthcare in the decades that followed the overthrow of Nkrumah in 1966, when Ghana was ruled by seven different governments (four military and three civilian) over a fifteen year period. The abrupt political reconfigurations that followed each coup or transition brought rapid shifts in policy and changes in personnel across all government departments. These changes disrupted the effective provision of health services, which had expanded nationally during the first years of Nkrumah's presidency, and also diminished the state's record-keeping capacity. There are relatively few government sources available for these years: I was fortunate to gain access to files kept by the state pharmaceuticals regulator, which contain various internal memoranda on the state of regional health services. In tandem with files in the WHO archives, which represent the views of WHO personnel stationed in Ghana, and by using interviews with retired health professionals, it is possible to gain a relatively coherent picture of what happened to northern healthcare over the abrupt political transitions from 1966 to 1981, accounting for changes at the national level and in the region itself. Many of the Nkrumah-era reforms foundered, and health services across the country either collapsed or entered a period of stasis. One physician, based at a hospital in the south in the 1970s, recalled that surgeons had to plead with a local hairdressing salon for latex gloves to perform sterile

operations, as the government was no longer able to maintain supplies of these and other basic items.[1]

In step with a recession in government health services, this period saw the steady expansion of northern health programmes planned and overseen by international organisations – most centrally the WHO, but also USAID (which began work in Ghana after Nkrumah's socialist government was deposed), UNICEF, and the bilateral development agencies of states including Canada and Denmark. Authority for healthcare in the north became increasingly divided between the state and these organisations, a process which accelerated after the Rawlings government began to implement structural adjustment in 1983. Increased international intervention in the north's health came as a corollary of the adjustment programme itself, and the region saw a proliferation of vertical disease control campaigns, bilateral health agencies, international NGOs and health research projects led by European universities. I examine this period (1981-2000) in the second half of this chapter. As Ghana's own healthcare capacity increased in the 1990s, over a long period of relative political stability under a single autocratic government, the state was able to reassert its authority in some areas of health provision. At the end of the century, a number of internationally-funded health research centres had been established in the region, conducting 'demographic surveillance' and randomised clinical trials that involved tens or even hundreds of thousands of northern people. One of these studies, the 'Navrongo Experiment', led to the creation of a new institution for rural health provision, the Community-Based Health and Planning Service, which in some respects was comparable to the Native Authority health system of the 1930s.

1 Dr Sam Adjei, Interview, Accra, 26 June 2016.

Part 1. After the first coup: health from 1966-1981

The implications of rapid political change

On the deposal of Nkrumah in 1966, the work of the Northern Region's Health Education Committee was abandoned, bringing an end to a flagship CPP public health initiative and apparently marking the cessation of most health education work in the north for some years.[2] The coup came at the same time as deepening recession in Ghana's economy, and the provision of health services was concurrently shaped by falling state revenues and the rapid reconfiguration of political power. There was almost no per-capita GDP growth between 1966 and 1983, when the first government of Jerry Rawlings was compelled to accept IMF/World Bank loans and structural adjustment reforms.[3] In 1966 there were immediate changes to the personnel responsible for regional government services, as officials associated with the CPP government were replaced by those loyal to the National Liberation Council (NLC); the coup also led to the re-drawing of administrative districts to suit the new government. In the north-west, for example, the NLC dismissed all district commissioners and dissolved the district councils, replacing these with its own management committees: the councils had been responsible for rural health, even if their capacity to actually provide health services had been greatly diminished from the early 1960s.[4] In the following years this removal of higher-ranking personnel and effacement of institutional knowledge (and record-keeping) would be repeated at each new change of government. After Nkrumah came the right-leaning military government of the

2 From the available sources, no further local committees or files on health education were created from this year until the end of the period in which health-related documents were retained in the archive at Tamale (up to 1978). And see NRG/8/13/40 (1959-65).

3 Gareth Austin, 'African Economic Development and Colonial Legacies', *International Development Policy* Series 2010/2011 (1 March 2010): 14.

4 See Lentz, *Ethnicity*, 227.

National Liberation Council, under Lieutenant General Joseph Ankrah. The NLC ruled for three years (1966-1969), when it returned power to a short-lived civilian government under Dr Kofi Busia, which also held power for three years (1969-1972). This 'Second Republic' was deposed in another military coup led by Colonel Ignatius Acheampong, which installed the left-leaning National Redemption Council from 1972 to 1975, when it was displaced by another military body, the Supreme Military Council. This ruled Ghana from 1975 to 1978 under one set of generals, who were replaced in a bloodless coup by a second group in 1978. In 1979, a movement of low-ranking air force and army officers led by Flight Lieutenant Jerry Rawlings temporarily seized power and established the Armed Forces Revolutionary Council (AFRC). With the aid of university students and other supporters across the country, the AFRC carried out executions and floggings of former ruling elites over the four months that it held power, before standing aside to allow a general election that had been planned by the previous military regime. This election installed the civilian government of the 'Third Republic' under the Nkrumah-ist People's National Party led by Dr Hilla Limann, the first northerner to hold the presidency. However, perceptions that the government was under excessive northern influence, and continued economic decline (with annual inflation reaching over 100 percent by 1981) led to another coup by Rawlings on 31 December 1981, which established the Provisional National Defence Council (PNDC). Rawlings ruled at the head of this authoritarian and avowedly 'radical' military government, which continued the execution of judges and former political figures deemed to be corrupt or complicit in the failings of earlier regimes. Rawlings governed the country for 20 years, until the end of the period covered by this thesis, first as head of the

PNDC and then as a civilian president of the 'Fourth Republic' after democratic elections in 1992.[5]

This summary account indicates the scale of political upheaval after the fall of Ghana's first independent government. Returning to 1966, in the period immediately following Nkrumah's overthrow, there are some examples which demonstrate the way in which political transitions shaped the country's health services. The coup undermined existing healthcare provision, as funds were withdrawn and officials were sacked. The number of newly-graduated doctors returning to Ghana from overseas training fell to even lower levels than in previous years, and some foreign doctors working in the country either left or were dismissed, at a time when there was an average of one doctor for every 35,000 people in the country.[6] WHO consultants criticised the new government's 'sudden low priority' for community health initiatives that had been started in the Nkrumah era, arguing that the organisation would only be willing to collaborate with future projects 'on the assumption that the government attaches importance to support of the public health sector'.[7] For the north, funds and personnel were withdrawn from the national Onchocerciasis Research Unit, established to investigate the disease and collaborate with the WHO in planning an eradication campaign. The unit's leader, G.K. Noamesi, tried to argue that although the disease was most prevalent in the north, it did not 'belong to the North', and deserved to be treated as a national health emergency.[8] But visits from WHO consultants were cancelled, the unit's vehicles were withdrawn, and it was unable to carry out research in the region itself. Instead the Ministry of Health proposed that onchocerciasis research could be

5 Gocking, *History of Ghana*, Chapters 9,10 and 11.
6 WHO/AFR/EXT/16 (1967), 30–40.
7 WHO/S10/372/2/GHA/6 (1965), 30–40.
8 See WHO/05/181/14 (1969), Enc.37: 'The Extent of Onchocerciasis in Ghana should concern us all', memorandum from Dr G.K. Noamesi to the Health Committee of the National Liberation Council, 9 April 1966.

carried out ‘in the hills north of Accra’, a region with no significant presence of the disease.[9]

In general, over this period there appears to have been an increasing politicisation of public health work. Health officials and researchers needed to petition successive military councils for re-approval of their previous projects, which were also undermined by sudden policy shifts and large-scale reorganisations of the national health service.[10] In 1973, for example, the National Redemption Council gave a group of military commissioners final authority over the activities of civilian ministries. WHO consultants noted that in order for the organisation’s public health projects to continue, it was ‘of the greatest importance’ that the military’s Commissioner for Health, Lieutenant Colonel A.H. Selormey, should be ‘kept interested’, while Selormey suggested that he would speak ‘as a soldier’ when he made recommendations for public health work.[11] In internal memoranda, lower-ranking health officials noted that ‘political influences’ or ‘the coup’ had undermined their ability to provide basic medical services, although there was an evident risk in attributing a decline in health standards to a particular government.[12] Ghanaian health workers who had fallen out of favour under one government were sometimes re-appointed by its successor, then dismissed again when power shifted. Dr Eustace Akwei, for example, former epidemiologist with the Medical Field Units and then Ghana’s Chief Medical Officer,

9 Ibid., Enc.3: G.K. Noamesi to C.W. Gockel, Division of Communicable Diseases, WHO, 29 June 1966.

10 Ibid., Encs.94-99: Correspondence between P.D. Scheffel, WHO AFRO-131 team leader, Ghana, and G.W. Gockel, Division of Communicable Diseases, WHO, March 1968; and Enc.37: Memorandum 9 April 1966.

11 WHO/P9/445/8/GHA (1973-1975), Enc.63: Duty Travel Report of visit to Ghana, 1-23 October 1974.

12 See, for example, PD/192 (1973) Commission of Enquiry (drug shortages), PRAAD Accra, Enc.1: ‘Memorandum to the Committee on Drugs’, undated (1973); PD/65/v2 Box 27/02/02735 (1972-1981), Enc.8: Comments on ’Development of Basic Health Services, Plan Of Operation, Ghana, Second Edition 1972’, 4 May 1972.

was dismissed by the CPP, re-appointed by the NLC in 1966, then fired by Busia's civilian government during a mass dismissal of Ewe public administrators in 1970.[13]

Some healthworkers did speak out against a perceived neglect of northern health problems. In 1966, G.K. Noamesi submitted his memorandum to the NLC, arguing that Ghana had been 'a bitter experience and a disappointment to the world' after the regime restricted the unit's work in the north, and criticising its 'lack of appreciation of the urgency' for control measures against the disease.[14] From correspondence filed in the WHO Archives in Geneva, it appears that Noamesi felt his association with the WHO gave him a degree of political protection, and he was the only trained medical entomologist employed by the Ministry of Health. He was nevertheless dismissed in 1968, and the NLC disbanded the Onchocerciasis Control Unit he had led, the centre of Ghana's national capacity for controlling the disease.[15] As I discuss below, politically-motivated shifts in the arrangement of health services undermined local capacity and opened the way for increased international control of Ghana's public health, principally by the WHO. Although a few officials raised concerns, the unstable political situation from 1966-1981 appears to have generally stifled both initiative and criticism. Doctor Von Asigri recalled at interview that 'everybody was scared about authorising certain things'. When the Supreme Military Council took power in 1975, Asigri himself was forced to abandon a PhD in Public Health that he had started in the United States. Unable to secure permission to remain overseas, he was compelled to return to Ghana and complete his studies locally, and

13 Ashitey, *Disease Control in Ghana*, 11–13.

14 WHO/05/181/14 (1969), Enc.37: 'The Extent of Onchocerciasis in Ghana should concern us all', memorandum from Dr G.K. Noamesi to the Health Committee of the National Liberation Council, 9 April 1966.

15 Ibid., Encs. 91–110, Correspondence between Dr G.K. Noamesi and WHO Communicable Division on Communicable Diseases, Geneva, March–August 1968.

went on to work as lead entomologist for the WHO Onchocerciasis Eradication Programme in the north.[16]

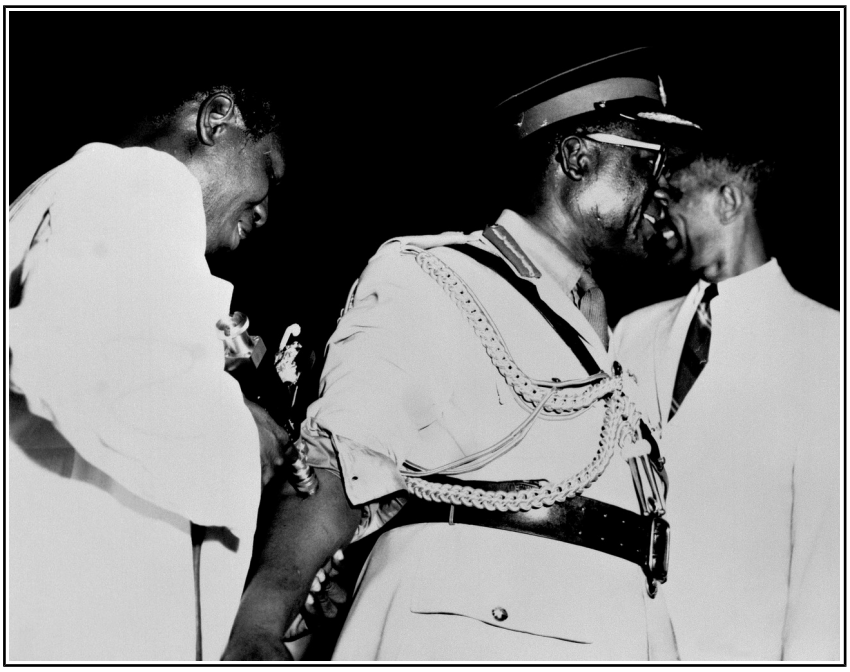

Figure 24. 1967: Shortly after the overthrow of Nkrumah, the leader of the National Liberation Council, General Ankrah, is vaccinated to publicise the WHO Smallpox Eradication Programme in Ghana. Source: CDC Public Health Image Library/13239/J.D.Millar/1967

Figure 25. 1968. NLC health officials and the US Surgeon-General William Stewart hold a ceremony in Accra to vaccinate Rebecca Asamoah, 25 millionth person vaccinated under the WHO programme. Source: CDC Public Health Image Library/5649/1968

16 Dr Von Asigri, Interview, Tamale, 30 June 2015.

Northern health and new governments

Constant political transitions destabilised health services across Ghana. But as with the transition from colonial rule to the first independent government, improved public health – or at least the public assertion of a government's ambition to improve health – continued to be seen as a principal means of gaining legitimacy by each new regime. Within months of the 1966 coup, the NLC announced the creation of a Committee on the Health Needs of Ghana, modelled on the 1952 Maude Commission. A similar public enquiry was established by the civilian Busia government soon after it came to power in 1969. Each proposed significant reforms, based in part on the conclusion that the north had been neglected in the overall provision of health services, although these reforms were not implemented in the short period before each government was deposed.[17] As with the 1952 Maude Commission, the 1966 committee proposed to travel the country, hearing testimony from communities and medical practitioners about health problems that had been neglected under the Nkrumah regime. The committee wrote directly to northern traditional leaders, whose influence over the provision of health services had been diminished under CPP rule, asking them to submit written representations and send delegates to meet the committee as it visited larger settlements across the region.[18] Having publicly announced a tour of the north, however, the committee changed its plans and called only at Tamale, where it stayed for two days.

Over this short visit, the only representations to the committee came from communities in the surrounding area: these reflected criticisms of declining health provision in the early 1960s, and the enduring hope that a new government would pay

17 NRG/8/13/50 (1964-1966) Health Needs of Ghana, PRAAD Tamale, Enc.2: 'National Liberation Council Committee on the Health Needs of Ghana', internal memorandum 13 September 1966; and see Botchway, 'Are Development Planners Afraid', 54.

18 NRG/8/13/50 (1964-1966), Enc.3: 'The Health Committee: Itinerary to Northern, Upper, Ashanti and Brong-Ahafo Regions, October 1966', undated internal document (1966).

increased attention to the region. The Health Education Committee of the Gambaga district, one of the by-then defunct local committees that had been created in the early Nkrumah era, submitted a detailed account of the 'inadequate' state of local health services in 1966. Their principal complaints were about a lack of staff, the same criticism made by northern administrations in the 1940s and 1950s following the decline of the Native Authority rural network. Although the district had received a new Health Centre at Walewale in the late 1950s, and was therefore apparently equipped to national standards, the centre was 'no longer serving the purpose it was meant to', because of a complete absence of doctors, nurses or midwives. The medical officer assigned to rural health services for the Gambaga district was also 'no longer at post'.[19] As in other periods, the low availability of trained northerners, and the reluctance of southerners to take up postings in the north, meant that the region remained chronically under-staffed even as the expansion of physical health facilities proceeded according to central policy. The senior public health nurse of the Tamale Community Nurses Training School, created from the colonial-era Tamale School of Hygiene in the early Nkrumah era, appeared before the committee to report that many of the school's buildings and facilities had been out of service for years, and the drainage system had fallen into disrepair: 'During the rainy season the compound is seriously flooded and movement is seriously restricted – it is sometimes impossible for nurses to go from the dormitory to the dining hall'.[20]

It is not clear whether the National Liberation Council acted on these local petitions. As Gocking argues, the NLC became increasingly focused on maintaining its

19 Ibid., Enc.9: 'Memorandum submitted to the Health Committee of the NLC by the Health Education Committee of Gambaga', 3 October 1966; and see Enc.7: 'Itinerary of the NLC Health Committee to the Regional Capitals', 17 September 1966; Enc.8: 'Health Committee of NLC Schedule', undated (1966).

20 Ibid., Enc.10: Memorandum submitted by Miss Comfort Oto, Senior Public Health Nurse, to the Health Committee of the National Liberation Council, 3 October 1966.

legitimacy among coastal political elites and among industrial workers on the mines and railways: it therefore pursued a policy of austerity which passed the costs of Ghana's prolonged recession onto rural communities away from the cocoa-growing areas.[21] But although constant political transitions reduced the capacity of the state to maintain a long term programme for the expansion of northern health services, this does not mean that healthcare initiatives ceased completely. Some public health projects were sustained across multiple governments even when there was relatively constant change in terms of policy, motivated by each new government's desire to distinguish itself from its predecessor. In 1966, the NLC government set out to 'divest the state from the socialist programmes pursued under Nkrumah'.[22] Guided by the recommendations of its Committee on the Health Needs of Ghana (and more substantially by the proposals of the WHO and UNICEF, as I discuss below), it proposed a new 5-Year Plan for the development of health services, along similar lines as the plan formulated before independence and discarded by the CPP government in 1961.[23] As with earlier plans, this envisaged the expansion of basic health services into rural areas that had been neglected by previous governments. The NLC established a pilot project for the 5-Year Plan in the north, but it made no budgetary allocations to expand basic health facilities in the region. Instead the government's principal healthcare aim was introduce measures by which the state could recover its spending on medical services – it proposed a small fee for accessing state healthcare, but it was forced to abandon this in the face of widespread public condemnation. The same was true for the civilian government of the Progress Party under Kofi Busia, which

21 Gocking, *History of Ghana*, 150–51.
22 Arhinful, 'Health Care In Ghana', 51.
23 WHO/P9/445/8/GHA (1973-1975), Enc.59: Duty Travel Report, Ghana, 23 November to 19 December 1973, 127-166.

succeeded the NLC in 1969, and was also forced to shelve proposals to charges fees at rural health facilities.[24]

The expansion of rural health services remained static during the Busia years, under conditions of extreme austerity, and the north's share of national healthcare expenditures remained extremely low: in 1972, the two northern regions received less than 8 percent of the total national healthcare budget, although they were home to 19 percent of the population.[25] However, the Busia government was successful in improving healthcare relations with neighbouring West African states. Unlike the NLC, which was regionally unpopular after its deposal of Nkrumah, it was able to establish a joint health commission with Upper Volta, intended to monitor and reduce the spread of disease across the northern border, and with Togo to the east. Again, these bilateral agreements was also substantially shaped by the requirements of the WHO, as it intensified the global Smallpox Eradication Programme and made preparations for the Onchocerciasis Control Programme in West Africa.[26]

Of all governments from 1966 to 1981, the military National Redemption Council (NRC) under General Ignatius Acheampong appears to have devoted the greatest attention to rural health services, and to northern communities in particular. As noted in Chapter 4, this was born out consistently in interviews with community groups in the north, who recalled that the Nkrumah, Acheampong and Rawlings regimes oversaw the most substantial improvements in their local health services.[27] The NRC

24 PD/65/v2 Box 27/02/02735 (1972-1981), Enc.9: 'Development of Basic Health Services, Plan Of Operation, Ghana, Second Edition 1972'; Arhinful, 'Health Care In Ghana', 48–50.

25 WHO/Project Files/Ghana-4301 (1970-1972) Medical Care Insurance, WHO Geneva, Enc.3: 'Medical Care Insurance in Ghana', Report by Dr RF Bridgman, WHO Consultant, 15 February 1972; Government of Ghana, 'Population Data Analysis Reports, 2000 Census' (Accra: Ghana Statistical Service, 2005), 117.

26 See PD/218 Box 31/02/02751 (1971-80) Health Committee of the Ghana-Upper Volta Joint Commission, PRAAD Accra, Encs.2-13: Correspondence and undated 'Agreement on Cooperation in Health Matters between Ghana and Upper Volta', 1971; PD/219 Box 31/02/02751 (1971-80) Health Committee of the Ghana-Togo Commission, PRAAD Accra.

27 Group.04: Tindonmoligo Village (Guruni), Interview 28 July 2015; Group.03: Sherigu Village (Guruni), Interview 28 July 2015; Group.08: Dulugu Village (Guruni), Interview 29 July 2015;

defined its politics in opposition to the anti-Nkrumah NLC and the 'neo-colonial' Progress Party of Busia, and its central military council was composed of what Gocking calls the 'outs' of these two prior regimes.[28] It was broadly 'socialist' and protection-oriented in its management of the economy, placing an emphasis on local food production, import substitution, and part nationalisation of foreign-owned companies.

Aided by good harvests and improving prices for Ghana's agricultural products on world markets, the NRC government was able to achieve a relatively substantial trade surplus by 1973.[29] It began to increase budgetary allocations to healthcare, which had fallen significantly over the preceding two governments, and spending on health services rose to 8 percent of the country's total expenditure by 1974.[30] NRC Health planners, working within the state's new Health Planning Unit, explicitly conceived of the provision of health services in terms of a developed core and a neglected periphery, perhaps influenced by the Dependency and World Systems theories then gaining ground in the social sciences. The Ministry of Health agreed that the earlier provision of health services between southern Ghana's economic heartlands and outlying regions (the north and the Brong-Ahafo region, which had formed the northernmost part of Ashanti under colonial rule) had been 'inequitable', and it set out to expand government healthcare 'into the hitherto untouched periphery'.[31] The ministry requested the help of WHO consultants to develop its programme of Basic

Group.16: Dagomba Community 1, Tamale Area, Interview 10 August 2015; Group.17: Dagomba Community 2, Tamale Area, Interview 10 August 2015; Group.10: Muriwie Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.14: Piisi Wala Community, Wa Area (Wala), Interview 8 August 2015.

28 Gocking, *History of Ghana*, 166–67.

29 Ibid., ch.9.

30 WHO/P9/445/8/GHA (1973-1975), Enc.210: Project Report: 'Estimates for International Assistance to the Project', 19 June 1974; Arhinful, 'Health Care In Ghana', 52–60.

31 PD/65/v2 Box 27/02/02735 (1972-1981), Enc.9: 'Development of Basic Health Services, Plan Of Operation, Ghana, Second Edition 1972'.

Health Services: 'A network of co-ordinated peripheral and intermediate health units capable of performing effectively a selected set of functions essential to the health of an area, and assuring the availability of competent professional and auxiliary personnel'.[32]

The NRC's policy reforms were intended to allow the state to address some of the most pressing health problems of rural communities, as articulated by northern community leaders and local officials over the preceding decades: the lack of local healthcare facilities, and inadequate staffing. But despite Ghana's rising trade surplus, government spending power remained constrained, and so the Ministry of Health attempted to square the circle by achieving a substantial expansion in rural health services without a concomitant increase in state spending:

> There is the recognition of the almost impossible task of getting any substantial increases in the allocation of the national budget for the health sector. The share of the health sector in the national budget is unlikely to increase substantially, because the present state of the economy cannot accommodate increases in allocation without serious repercussions in other sectors of the economy. Faced with this dilemma, the only logical step is the development of new systems of health care delivery that are capable of achieving the desired effect at minimum cost.[33]

Here, Ghana as a whole found itself facing the same difficulties that northern administrations had faced in the colonial period – how to extend health services to rural communities on the basis that there would be no additional funds. The NRC elected to pursue a similar course to that chosen by officials in the 1930s, when northern healthcare was decentralised to the Native Authorities. As with its national food production campaign, 'Operation Feed Yourself', the NRC reformed health services to emphasize local initiative, and to compensate for a chronic shortage of trained personnel. It did this 'by means of organized voluntary groups assuming

32 Ibid., Enc.6: 'Basic Health Services', memorandum from MoH Accra, 13 April 1973.
33 WHO/P9/445/8/GHA (1973-1975), Enc.191: Dr M.A. Baddoo, Director of Medical Services, Accra, to Division of Strengthening of Health Services, WHO, Geneva, 31 August 1973.

responsibilities for aspects of health activities'. Community Development Committees were created in each district, with healthcare provision to be 'decided upon and organised by the communities themselves, through their committee'.[34] This was similar to the Native Authority reforms in that it conferred healthcare decision-making power on northern communities. It was also an evident retreat from welfare responsibilities previously assumed by the state, and a reversal of the centralisation that characterised the late colonial and early independence period. The new policy shifted responsibility for organising and maintaining health services back to communities on a 'voluntary' basis (without increased allocations of funds), and greatly increased the scope for international health organisations, charities and NGOs to assume control over particular aspects of northern healthcare. WHO consultants who worked with the NRC government reported that although Ghana's proposed new health system would be 'technically entirely a national enterprise', the voluntary nature of rural community participation meant that as a matter of policy, international charities and other healthcare organisations would become increasingly involved in the provision of health services. As the policy was being formulated, with trial projects planned for the north, the WHO began to contact international NGOs about their prospective involvement in the provision of Ghana's community health services.[35]

The National Redemption Council government morphed into the Supreme Military Council government after 1975. A large number of officials were replaced, but Acheampong remained the head of state, and NRC healthcare policies were largely maintained across the transition. The next substantial political shift came in 1978, when a group of army officers under General Fred Akuffo took control of the Supreme

34 Ibid., Enc.251: Report of Duty Travel to Ghana by Dr J. Holm and Dr J. Stromberg, Division of Strengthening of Health Services, WHO, April to May 1974.
35 Ibid., Enc.270.

Military Council. Ghana's economic problems continued to deepen across this period and into the early 1980s. Extremely high inflation undermined local living standards, prompting tens of thousands of trained public-sector employees, principally teachers and health workers, to emigrate for work in Nigeria and Europe after 1975.[36] Under these difficult conditions the government continued to insist that it was providing better health services for less, proposing in 1978, for example, that 'in the face of continued inflation and budgetary restrictions ... better management will make it possible to reach more people at the same cost'.[37] But by 1978 and well into the Rawlings era, the most substantial changes to Ghana's national health policy, and in the provision of rural northern health services and disease control measures, came as the result of direct recommendations or interventions by the WHO and other international bodies.

I discuss the rise of international influence and the decline in Ghana's control of its health services in the second part of the chapter. First, a closer examination of the actual state of health services in the north over this period, in comparison to stated aims and policy reforms. As the NRC and then the SMC reformulated healthcare policy with the aim of improving health provision at the rural periphery, there was continued decline in the state of northern facilities relative to the south, where a degree of health provision was maintained through the government hospitals that had been built in most districts. In his discussion of national health service delivery, Kojo Senah calculates that by 1978, the greater Accra area alone had 34 percent of total hospital beds and 12 percent per cent of all hospital facilities in Ghana, although it was home to only 9 percent of the population.[38] Even in 1973, at the height of the NRC's increased

36 It is estimated that 14,000 teachers left the Ghana education services and emigrated between 1975 and 1981. See Gocking, *History of Ghana*, 173.

37 PD/232 Box 18/02/02726 (1978-1993) Organisation & Estimates for Health Service, PRAAD Accra, Enc.9: Guidelines For 1978/79 Estimates, MoH Accra, 6 February 1978.

38 Kodjo Senah, 'Problems of the Health Care Delivery System', in *The State, Development and Politics in Ghana*, ed. Kwame Ninsin and Emmanuel Hansen (Dakar: CODESRIA, 1989), 256–59.

budgetary allocations for the improvement of peripheral healthcare, health services outside hospitals still received less than 15 percent of the government's total health budget.[39] The WHO reported that 'in actuality, healthcare is primarily limited to those patients who come (or are brought) to the health facilities ... getting to a health facility represents a significant investment for any person who lives outside of the very immediate area'.[40]

In the north, the main government facilities were unevenly maintained over this period, and their ability to reach surrounding communities was constrained by a constant lack of working vehicles. State health inspectors made an unannounced visit to northern facilities in 1975. The north at this point had seven hospitals (at Bolgatanga, Navrongo, Lawra, Wa, Yendi, Salaga and Tamale), an increase of one since the colonial period, and six functioning district health centres (in Tumu, Lawra, Savelugu, Bimbilla, Walewale and Daboya districts), suggesting that six of the 12 health centres built by the early Nkrumah government were no long in use – earlier reports indicated that this was because of the continued absence of staff.[41] The government inspector found that of the 132 vehicles allocated to northern health services, 73 were broken down and off the road, while a number of working ambulances had been diverted for use as local taxis. Health centres at Walewale, Savelugu, Lawra and Tumu were found to be in good working condition – the Lawra Health Centre had been opened that year by Acheampong himself – as were the government hospitals at Lawra and Tamale. But significant problems were reported at all other facilities. At Bimbilla Health Centre, for

39 WHO/P9/445/8/GHA (1973-1975), Enc.201: Dr F.T. Sai, International Planned Parenthood Federation, Accra, to A. Zahra, Division of Family Health, WHO Geneva, 16 July 1973.

40 Ibid., Enc.251: Report of Duty Travel to Ghana by Dr J. Holm and Dr J. Stromberg, Division of Strengthening of Health Services, WHO, April to May 1974.

41 PD/68/v2 Box 27/02/02735 (1974-1977) Report: Northern and Upper Region, PRAAD Accra, Enc.4: 'Inspectorate Report, Upper Region, 18-24 March 1975', MoH Inspectorate Dept., Accra, 4 April 1975; and Enc.5: 'Inspectorate Report, Northern Region, 10-17 March 1975', MoH Inspectorate Dept., Accra, 4 April 1975.

example, the main facilities and medical stores were found disused and covered with 'dust and cobwebs', while its ambulances were being used as commercial transports. Bolgatanga hospital was found to be illegally charging people for medical services through a system of compulsory 'voluntary donations', and the inspector discovered the theft of medical products from stores across the region. The health centre at Daboya was found to be cut off from all government transport networks, with no means of bringing in medical supplies, and without a supply of water.[42]

Many of these problems were not particular to northern Ghana. As Bruce Fetter argues, for the continent as a whole:

> In the mid-1970s commodity prices received by African exporters began to fall relative to the cost of imported manufactured goods. U.S. aid began to drop as the nation felt the impact of the debt run-up during the Vietnam War. These reductions in both foreign and domestic revenues caused real cutbacks in African health care (often disguised by the action of inflation on local currencies). First, and worst hit, were the rural dispensaries whose supplies and personnel suffered draconian cuts. Underpaid staff began to supplement their salaries by stealing supplies and selling them in local markets. In some facilities, staff began demanding bribes for the provision of services which should have been free.[43]

These observations accurately reflect some of the problems affecting northern health services. A new policy emphasis on improving the peripheral north's physical health facilities, formulated by the NRC and sustained by the SMC, had few tangible effects in the face of the country's broader economic problems, a product of Ghana's own peripheral location in the global economy. A decline in northern healthcare provision - or perhaps more correctly a continued stasis, after health services had declined in the late Nkrumah era – came as the general poverty of northern communities deepened. In the north-eastern Bawku area, for example, it has been estimated that 80 to 90 percent

42 Ibid., Encs. 4 and 5.
43 Fetter, 'Health Care in Twentieth Century Africa', 18–19.

of the population were vulnerable or destitute from the mid-1970s to the early 1990s.[44] In 1978, when the Ghana government began another reformulation of national health policy to accommodate the 'Healthcare for All' goals of the Alma Ata Declaration, promoted locally by the WHO, the Ministry of Health reported that for rural health services there had been 'little improvement in the last 15 years'.[45] For the north there had in fact been almost no improvement in the extension of physical health facilities (the health centres, clinics and rural health posts required by national policy) since the early 1960s, when the CPP cut northern spending as it focused on the cocoa-growing areas and southern towns.

Before turning to the growing role of international organisations, however, it is worth briefly noting the persistent importance of the Medical Field Units in maintaining a degree of regional health provision over the period from 1957 to 1981. The MFUs had originally been created when local medical officers took funds allocated for sleeping sickness control in the 1930s – a time when sleeping sickness received a far greater budgetary allocation than any other aspect of northern healthcare – and used these to sustain a general purpose mobile medical unit that provided a range of treatments to rural northern communities. This broader remit was formalised in 1947, and the MFUs continued working across the independence transition and the Nkrumah era. Their village-by-village approach to rural healthcare, using staff without formal medical qualifications, was recognised as an outstanding success under the conditions of extreme privation encountered in the north. After independence the MFUs were taken up as a national model, by Ghanaian governments seeking a solution to the problem of expanding rural health provision while avoiding the expenditures required

44 DFID, 'Economic Growth', 42.
45 PD/232 Box 18/02/02726 (1978-93) Circulars, organisation & estimates for Health Service, PRAAD Accra, Enc.10:'Summary of the Primary Health Care Concept', MoH Circular, 6 February 1978.

for the maintenance of fixed healthcare facilities, of the kind that served populations at the coast.

Gilford Ashitey, a former WHO epidemiologist and head of the Department of Community Health at the University of Ghana, recalled that the MFU programme became 'the pride of the Ministry of Health'. Originally based at Gambaga, the MFU headquarters was relocated southwards to Kintampo and then to Accra in 1968, and mobile units began to serve rural communities across Ghana.[46] From 1969, the Ministry of Health decided to base its entire training regime for rural health services, including for staff at fixed facilities, on the course developed for northern MFU personnel, a policy which was maintained across the following transitions to military governments.[47] WHO consultants posted in the north consistently remarked on the importance of the MFUs under the economic conditions of the 1970s, observing that they offered the best way of 'providing as much coverage to the population as is possible within the limitations of available staff and resources'.[48]

Between 1957 and 1981 the MFUs contributed their staff and local knowledge to WHO campaigns against yaws, tuberculosis, smallpox, bilharzia and onchocerciasis in the north. They also led post-independence campaigns against diseases which were not the focus of WHO attention, including filariasis and epidemic meningitis.[49] The units were dissolved following Ghana's turn to structural adjustment in 1983, when the Rawlings government expanded the number of rural health posts and

46 Ashitey, *Disease Control in Ghana*, 11.

47 PD/65/v2 Box 27/02/02735 (1972-1981), Enc.9:'Rural Health Training Centre, Kintampo', internal report, 7 March 1969; and Enc.10: 'Development of Basic Health Services, Plan Of Operation, Ghana, Second Edition 1972'.

48 WHO/P9/445/8/GHA (1973-1975), Enc.251: Report of Duty Travel to Ghana by Dr J. Holm and Dr J. Stromberg, Division of Strengthening of Health Services, WHO, April to May 1974.

49 See Dr Sam Bugri, Interview, Tamale, 30 June 2015; Dr Von Asigri, Interview, Tamale, 30 June 2015; WHO/CPD67.4 (1968); WHO/Project files/Ghana-1202 (1960-1973); WHO/Project files/Ghana-2101 (1959-1973); and V. K. Agadzi et al., 'Yaws in Ghana', *Clinical Infectious Diseases Clinical Infectious Diseases* 7, no. Supplement 2 (1985): S233–36.

increased the number of 'technical officers' based at these fixed facilities, with formal training in epidemiology and public health. But for almost 30 years after independence, the MFUs, staffed by local people who were 'were not highly educated, but very handy and knew the terrain', were the front-line of state healthcare in the north.[50] In 2015, during community interviews in villages across the three northern regions of Ghana, older people would often laugh at questions about how often they had used government doctors or health facilities in the 1960s and 1970s. 'Government – was there even government?' was one (relatively typical) reply. 'We only had the MFUs.'[51]

Part 2. International Influence and the Rawlings Years

The increased presence of international organisations in African health services from the late 1970s, at a time of economic weakness and political turbulence for many African states, has become an increasingly active area of historical research. Several recent volumes include studies that examine internationally-led disease control campaigns after independence, or which draw comparisons between the healthcare interventions of colonial powers and those of post-colonial international organisations, as a new form of external imposition on African health systems.[52] A relatively broad consensus has arguably emerged regarding some aspects of international involvement. First, there is the view that 'from the immediate post–World War II period to the present, global health initiatives have been characterized by a commitment to disease-

50 Dr Sam Bugri, Interview, Tamale, 30 June 2015.
51 Group.03: Sherigu Village (Guruni), Interview 28 July 2015.
52 See, for example, William Schneider, 'The Long History of Smallpox Eradication: Lessons for Global Health in Africa'; and James Webb 'The First Large-Scale Use of Synthetic Insecticide for Malaria Control: Lesson from Liberia, 1945-1962', both in *Global Health in Africa*, ed. Tamara Giles-Vernick and James Webb; also Noemi Tousignant, 'The Qualities of Citizenship: Private Pharmacists and the State in Senegal after Independence and Alternance', in *Making and Unmaking Public Health in Africa*, ed. Ruth Prince and Rebecca Marsland.

specific programs'; in other words to 'vertical' campaigns against specific pathogens or forms of illness, an emphasis which stemmed from WHO influence.[53] Second, there is a view that for many African states, it was a turn to structural adjustment in the 1980s that led to 'the decay of government-controlled health services and a corresponding proliferation of nongovernmental, transnational, private, and humanitarian organizations'.[54] But in Ghana, as the first sub-Saharan African state to gain independence, and where a rapid economic decline related to its specific economic conditions (a dependence on cocoa exports) meant that the capacity of the state was arguably undermined at an earlier stage than for many African governments, the evolution of WHO and other international influences followed a slightly different trajectory. Here the WHO became intricately involved in national healthcare from the late 1960s, as Ghana's economy collapsed and a period of chaotic political transitions began. As I discuss below, its influence was felt not only in the implementation of vertical disease control campaigns, but across a much broader range of health activities, including the planning and delivery of basic community healthcare through the WHO's Division for Strengthening of Health Services. Some early WHO interventions in Ghana were explicitly motivated by the belief that 'vertical' campaigns were ineffective at addressing broader health needs.[55]

As noted in the preceding chapters, there was relatively little international influence on northern health services for most of the colonial period. In much of the south, responsibility for maternal and infant welfare, and health education services, had been handed to the Gold Coast branch of the British Red Cross Society in 1932, with

53 See Giles-Vernick and Webb, *Global Health in Africa*, 7–11.
54 See Prince and Marsland, *Making and Unmaking Public Health*, 1–3.
55 See, for example, WHO/P9/445/8/GHA (1973-1975), Enc.251: Report of Duty Travel to Ghana by Dr J. Holm and Dr J. Stromberg, Division of Strengthening of Health Services, WHO, April to May 1974; and passim.

some official reports praising its work.[56] But the Red Cross did not establish similar operations in the north over the colonial period. Before 1957, the only significant northern involvement of an international charity or health organisation came with the posting of a medical officer from the British Leprosy Relief Association to the region in the 1920s, who was withdrawn after the onset of the Great Depression, and with the landmark survey of blindness and onchocerciasis carried out by the British Empire Society for the Blind (BESB) in 1952.[57]

Southern health facilities benefited from an additional influx of donor funding in the 1920s and early 1930s, when the Rockefeller Foundation's Yellow Fever Commission collaborated with the Gold Coast Medical Department in research on yellow fever vaccines – over this period there were more government medical staff assigned to the Medical Research Laboratory in Accra than to the whole of the Northern Territories.[58] In the early 1960s the Rockefeller Foundation also part-funded training for nurses at the University of Ghana, in collaboration with McGill University in Canada, although it is unclear whether this was maintained after Nkrumah's turn towards the Eastern Bloc.[59] The Rockefeller Foundation had no direct involvement in northern health services, although had funded ethnographic research in the north-east during the colonial era, by the South African anthropologist Meyer Fortes.[60] It is interesting to note that by 1908, Rockefeller-funded research had led to the development of a relatively effective serum treatment for meningitis, which was found to reduce mortality from the disease from 70 percent to 25 percent of those infected.

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56 See Chapter 1, and 1932-1933 MDAR, 34.
57 Chapters 1 and 4; also 1951 MDAR, 12; 1933-1934 MDAR, 100; 1953 MDAR, 2.
58 See Chapter 1
59 NRG/8/13/44 (1961-1967), Enc.150: 'A Nursing Programme at the University of Ghana, Accra', WHO Press Release, 11 September 1962; and see Anne-Emanuelle Birn and Elizabeth Fee, 'The Rockefeller Foundation and the International Health Agenda', *The Lancet* 381, no. 9878 (11 May 2013): 1618–20.
60 Allman and Parker, *Tongnaab*, 195.

This was never trialled by the Gold Coast government for use against recurrent epidemics of the disease in the north, despite recommendations from an expert advisor brought in to study the outbreaks.[61]

Over the colonial period, the Gold Coast government generally resisted the influence or involvement of the principal transnational health organisations (the League of Nations Health Section, and the WHO) in the arrangement of its health services. This was the case across British colonies more generally. Susan Pedersen has noted the difference in healthcare and labour policies between Britain and France's colonies and their mandated territories, open to League of Nations and UN inspection, where the two colonial powers often developed approaches that were 'more restrained and more internationally-oriented than those in the rest of their empires in tropical Africa'.[62] Although Britain was a signatory to the International Sanitary Conventions, it insisted on exceptions which meant that health services and disease outbreaks in its African colonies were not subject to the same reporting requirements as the metropole.[63] There was an evident antipathy in some interactions. During a serious meningitis epidemic in the north in 1945-1946, for example, Gold Coast- and London-based officials circulated internal notes emphasizing that the United Nations Relief and Rehabilitation Administration (UNRRA, which evolved to become the WHO and UNICEF) should not be informed about the scale of the outbreaks, and that no notification should be given under the international sanitary conventions.[64] There was nevertheless a gradual increase in international influence, particularly as independence approached. As Giles-

61 Horn, 'Investigation of Cerebro-Spinal Fever', 23–24.

62 Susan Pedersen, 'Back to the League of Nations', *American Historical Review* 112, no. 4 (2007): 1105; and see also Patricia Clavin and Jen-Wilhelm Wessel, 'Transnationalism and the League of Nations: Understanding the Work of Its Economic and Financial Organisation', *Contemporary European History* 14, no. 4 (2005): 465–92.

63 Sealey, 'International Sanitary Convention', 449.

64 See CO/859/108 (1945), Enc.2: Handwritten internal note, 15 February 1945; and Enc.8: internal note, 9 August 1945.

Vernick and Webb have argued, despite the minor earlier involvement of international agencies in colonial health, it was only after the creation of the WHO in 1948 'that African health issues began to be considered from a broader international perspective'.[65] By the early 1950s, the WHO was providing advice on purification methods for rural water supplies in the north, and UNICEF was supplying vehicles to support the Medical Field Units' yaws control programme.[66]

British involvement in planning or funding Ghana's health services fell away abruptly at independence, leading to recriminations in Britain itself. In the early 1960s, members of the UK parliament attacked Harold Macmillan's Conservative government for withdrawing assistance to control programmes against onchocerciasis in Ghana, and for a general renouncement of responsibility for health problems in West Africa. The government replied that these problems were 'now the responsibility of the independent Governments', which would need to petition the UK for any assistance.[67] A degree of British influence remained, through the continued presence of commonwealth organisations like the British Empire Society for the Blind, which had selected northern Ghana – Africa's 'Country of the Blind' – as its exemplar for international fundraising efforts.[68] In the early Nkrumah period, a degree of British influence was also maintained through the CPP government's focus on Britain as a principal recruiting ground for doctors and other medical staff. But from the early 1960s, the WHO rapidly replaced Britain as a principal external influence on the development of national health services. From 1957 to 1981 there were moments when Ghana raised criticisms of WHO activity, or withdrew support for WHO projects. In 1966, for example, soon

65 Giles-Vernick and Webb, *Global Health in Africa*, 7.
66 NRG/8/13/4 (1945-55), Enc.64: MoH, Accra to CRO, Tamale, 15 October 1955; and see Sylvester Gundona, '"Coping with This Scourge": The State, Leprosy, and the Politics of Public Health in Colonial Ghana, 1900-Mid 1950s' (Thesis, University of Austin, 2015), 129.
67 HC Deb (19 December 1961) v.651, c.1324.
68 Wilson, 'Blindness in the Commonwealth', 125.

after the deposal of Nkrumah, the NLC government condemned the WHO publicly at the organisation's nineteenth annual World Health Assembly, arguing that 'intolerance and lack of realism, or of creativeness on the part of some WHO staff, have proved serious obstacles to fruitful cooperation'.[69] Despite these temporary tensions, there was a steady accretion of WHO influence and involvement, which was broadly maintained across military coups and changes of government.[70] Rapid political changes had the effect of increasing the WHO's relative authority and institutional knowledge of Ghanaian health problems. Even at relatively low district levels, Ministry of Health employees were regularly dismissed following shifts in government, while the WHO's in-country staff persisted in their roles.

Over time, the WHO absorbed a significant number of Ghanaian public health officials who had been dismissed by past governments, or who simply saw WHO employment as preferable to local options – for example Dr Eddie Beausoleil, Ghana's Director of Medical Services before the Rawlings coup of 1979, or Frank Grant, the first Ghanaian head of the Medical Field Units in the late 1960s. Both took up positions with the WHO's African headquarters in Brazzaville, and Grant later returned to the north as a consultant for the WHO/Carter Centre Guinea Worm Eradication Program in the 1990s.[71] In interviews with a number of the country's current and recently-retired health officials, it was noted that employment with the WHO was a preferred career

69 NRG/8/13/44 (1961-1967), Enc.170: 'African Delegates Discuss Director-General's Report', WHO report on the nineteenth World Health Assembly, 26 May 1966; And see WHO/P9/445/8/GHA (1973-1975), Enc.251: Report of Duty Travel to Ghana by Dr J. Holm and Dr J. Stromberg, Division of Strengthening of Health Services, WHO, April to May 1974; WHO/S10/372/2/GHA/6 (1965), Encs.30-39: Correspondence between WHO Africa Regional Directorate, Brazzaville and WHO/UNDP representatives, Ghana, July to October 1966.

70 For WHO files which show how projects persisted across abrupt political transitions in Ghana, see WHO/05/181/14 (1969); WHO/CPD67.4 (1968); WHO/Project files/Ghana-1202 (1960-1973); WHO/Project files/Ghana-2101 (1959-1973).

71 Ashitey, *Disease Control in Ghana*, 9–12.

progression for many health workers, once they had obtained the requisite level of qualifications and experience.[72]

The WHO's institutional knowledge of Ghana's public health system steadily increased from the 1950s as it established a permanent presence in the country, and as Ghanaians left the national health service to take up employment with the organisation. In collaboration with other UN agencies, it became involved in a number of national projects. In terms of 'vertical' disease-oriented programmes, these included Ghana's participation in transnational campaigns against yaws (WHO and UNICEF, 1955-1959), diseases of malnutrition (WHO, 1957-1964), tuberculosis (WHO, 1960-1973), smallpox (WHO, 1966-1970), and onchocerciasis (1974-1984), and localised WHO projects against bilharzia (1959-1973) and leprosy (1956-1969).[73] Beyond these vertical campaigns, the WHO also oversaw projects related to the broader improvement of public health and the development of Ghana's healthcare capacity. It conducted a survey of environmental sanitation needs across the country, and designed an improved water and sewerage system for the Accra-Tema metropolitan area (with installation co-funded by the World Bank).[74] The WHO developed and funded national training programmes for community health nurses (1961-1968) and public health engineers (1971-1972), and from 1967-1980 it ran a series of rural sanitation pilot projects across the country.[75]

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72 Dr Von Asigri, Interview, Tamale, 30 June 2015; Professor Fred Binka, Interview, Ho, 21 June 2016; Dr Sam Bugri, Interview, Tamale, 30 June 2015; Dr Moses Adibo, Interview, Accra, 17 June 2016; Dr Sam Adjei, Interview, Accra, 26 June 2016.

73 WHO/V3/375/7 (1955-58) UNICEF & WHO Yaws Campaign, WHO Geneva; WHO/Project files/Ghana-9 (1956-69) Leprosy, WHO Geneva; WHO/Project files/Ghana-14 (1957-64) Nutrition, WHO Geneva; WHO/Project files/Ghana-2101 (1959-1973); WHO/Project files/Ghana-1202 (1960-1973); and see Frank Fenner, *Smallpox and Its Eradication* (Geneva: World Health Organization, 1988), 901–3.

74 WHO/Project files/GHA-PIP-001 (1973-80) Rural Water Supply and Sanitation Project, WHO Geneva; WHO/Project files/Ghana-10 (1961-67) Environmental Sanitation, WHO Geneva; WHO/Project files/GHA-40 (1973-80) Assistance to the Water Supply and Sewerage Corporation, WHO Geneva.

75 WHO/Project files/Ghana-25 (1961-1968) Training of Community Health Nurses, WHO Geneva; WHO/Project files/GHA-PIP-001 (1973-80); WHO/Project files/GHA-HMD-002 (1971-1972)

Many of these projects emerged from the organisation's broader involvement in the development of Ghana's national health policies, at the request of successive governments. The WHO was asked by the National Liberation Council to carry out 'a review of the whole field of public health legislation including sanitary law, the law relating to health care services, social security, the control of food and drugs, the control of medical and allied professions, and health statistics', with a view to redrafting national laws.[76] Under the Busia government, WHO consultants surveyed the regional allocation of health services in the country, noting the inequitable distribution of health services between north and south, and developed detailed plans for a national health insurance scheme.[77] Following changes in government, the proposals resulting from these requests were not fully enacted, but the requests themselves indicate the extent to which governments of various political backgrounds depended on the WHO for the formulation of policy. The extent of WHO influence was particularly striking in the development of plans for basic rural health services, of the kind required and consistently requested by communities in the north. The reformulations of health policy under the NLC in 1967, and under the National Redemption Council in 1973 – which led to an emphasis on extending health services 'into the hitherto untouched periphery' – were the direct result of WHO recommendations: 'The idea for new approaches to health services delivery came from [WHO Africa headquarters in] Brazzaville and became embodied in the Development of Basic Health Services Plan of Operation for Ghana in 1967'.[78] Giovanni Carbone

Public Health Engineering Education, WHO Geneva.

76 WHO/Project files/Ghana-4101 (1967-70) Health Legislation, WHO Geneva, Enc.10: 'Consultant to review Health legislation in Ghana', internal memorandum, 7 February 1969.

77 WHO/Project Files/Ghana-4301 (1970-1972), Enc.3: 'Medical Care Insurance in Ghana', report by Dr RF Bridgman, WHO Consultant, 15 February 1972.

78 Dr Yaw Agoabye-Atta, Planning Committee Chairman, quoted in WHO/P9/445/8/GHA (1973-1975), Enc.120: WHO Duty Travel Report, Ghana, 23 November to 19 December 1973, Annex 8, Report of meeting held 30 November 1973.

argues that international influence only came strongly to bear on Ghanaian health policy in the late 1970s, when the 1978 Alma-Ata Declaration committed states to 'Health for All' through the provision of basic, 'primary' health services.[79] But the evidence suggests that in Ghana, and possibly in other African states, WHO influence had helped to entrench primary health care as a policy goal – if not in practice – a decade before Alma Ata.

Northern healthcare and the WHO, 1957-1981

Although it had a clear role in shaping national policy, and despite its involvement numerous broad-based 'non-vertical' initiatives in Ghana before the structural adjustment era, the WHO's presence in northern healthcare over this period was almost entirely confined to campaigns against particular diseases. Perhaps because of the 'gatekeeper' role played by governments in Accra, and also because of the preferences of international consultants, many internationally-funded public health projects were conducted in the south and close to the capital. In 1965, for example, the government recommended the peri-urban Accra-Tema region and the southern town of Asamankese as sites for a WHO study in community health – it later recommended the village of Danfa, 19km from Accra, for a long running USAID-funded study in rural health.[80] As a result, plans for rural health provision were to some extent based around conceptions of health needs in the south, where relatively substantial transport infrastructure and physical health facilities had been developed since the colonial era.[81]

79 Carbone, 'Democratic Demands', 401.

80 WHO/S10/372/2/GHA/6 (1965), Enc.10: 'Establishment of a Community Health Project', WHO Consultant Report on Ghana under EPTA program, July 1966; WHO/Project files/Ghana-44 (1967-70) Danfa Rural Health Project, WHO Geneva.

81 See WHO/P9/445/8/GHA (1973-1975), Enc.201: Dr F.T. Sai, International Planned Parenthood Federation, Accra, to A. Zahra, Division of Family Health, WHO Geneva, 16 July 1973.

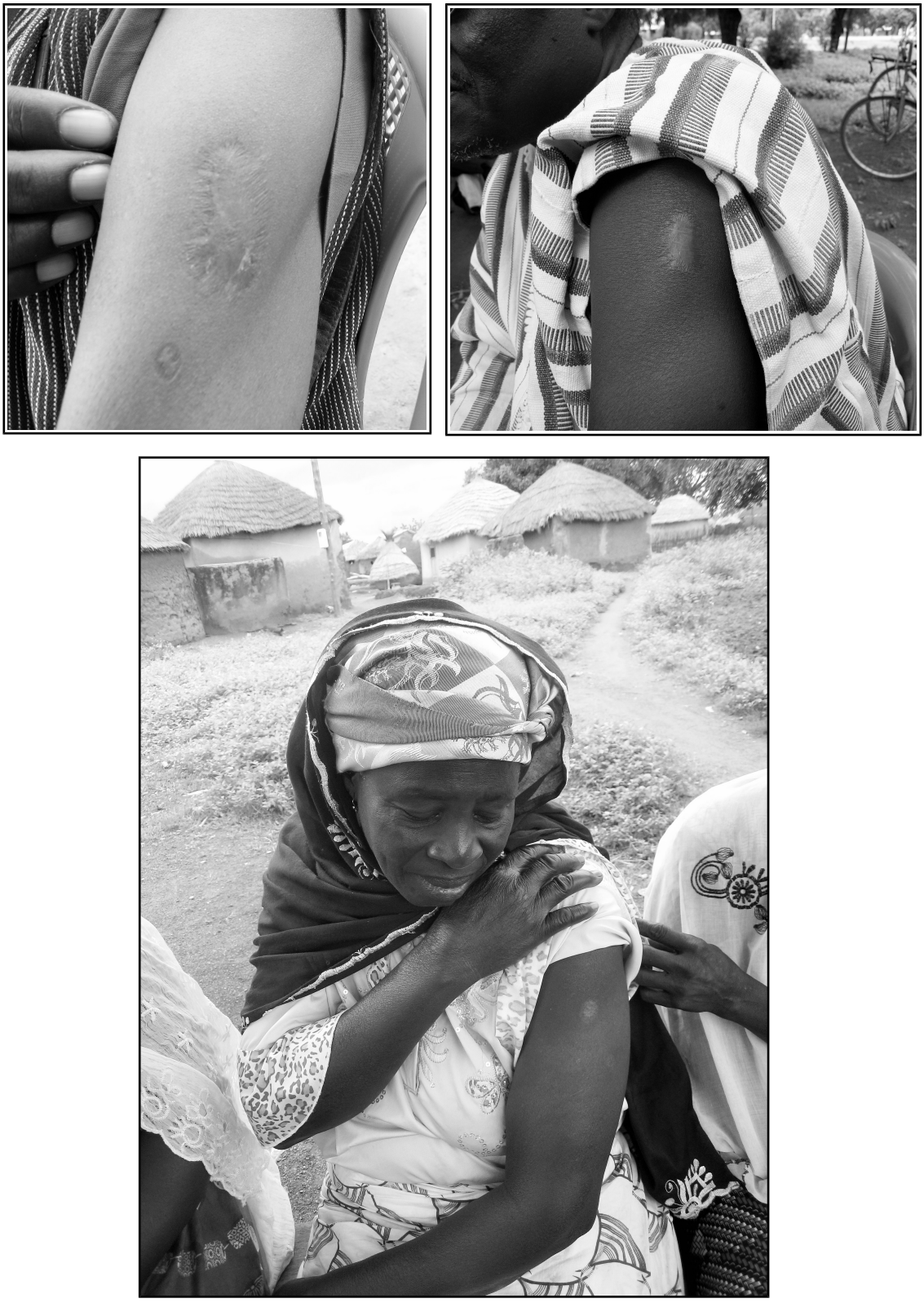

Figure 26. July 2015. People show vaccination scars from the Smallpox Eradication Programme in northern Ghana
Source: author

Just as many African people in the colonial period had their principal encounters with state-sponsored medicine through one of the 'great campaigns' against specific diseases, so too for northerners during the decades from independence to the accession of Jerry Rawlings.[82] For many people the only contact with health services during this period came through the MFUs, who were consistently engaged in work for the WHO, or with disease control teams employed directly by the WHO itself. In village interviews, two campaigns were most closely remembered by northern communities. The WHO Smallpox Eradication Programme (funded in Ghana by USAID) was recalled vividly by almost all people over the age of fifty in all of the 23 community groups I interviewed, principally for its coercive elements. Search teams apparently came into each village to check people for the typical scarring which follows vaccination. Those found without vaccination scars were forcibly vaccinated, sometimes after being physically restrained or interned with others in a shed or other temporary facility; the parents of unvaccinated children were charged with a criminal offence and fined a substantial amount. In many communities the eradication campaign is remembered with an onomatopoeic name, *chiru-chiru*, which mimics the sound of the needleless pressure-jet injector used to administer the vaccine. Some communities recalled that when word of an arriving vaccination team reached a village, people would run and hide in the surrounding bush, or they would conceal children and younger family members in the roofs of houses or among crops. In other cases 'the people found out that well, okay, you have to find a way of putting a scar on this child'.[83] The campaign also left its mark on the urban geography of the north. In

82 Vaughan, *Curing Their Ills*, 37.

83 Group.04: Tindonmoligo Village (Guruni), Interview 28 July 2015; Group.06: Tanzul Village (Guruni), Interview 29 July 2015; Group.07: Zuarungu Village (Guruni), Interview, Upper East, 29 July 2015; Group.08: Dulugu Village (Guruni), Interview 29 July 2015; Group.10: Muriwie Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.11: Naachenyiri Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.12: Busa Wala Community 1, Wa Area (Wala), Interview 8 August 2015; Group.14: Piisi Wala Community, Wa Area (Wala), Interview 8 August 2015;

Tamale, the region's largest city, the small suburb surrounding the Ahmadiyyah mosque is now formally designated as Sakasaka District. According to interviews with communities and health practitioners who were present in the north during the smallpox eradication campaign, this name comes from the Hausa equivalent term for '*chiru-chiru'*: *saka-saka*, from the word *saka* meaning 'insert', 'knit' or 'put in'. Set on the main road from the northwards settlements of Walewale, Bolgatanga, and Navrongo, the district became the central checkpoint for the smallpox campaign. According to Dr Sam Bugri, former director of health services for the Northern Region, then working as a junior physician in the north:

> That used to be the entrance to Tamale, and there was a barrier there which they stopped and examined everybody for smallpox scars. If you didn't have one then you were vaccinated on the spot. And because of the way in which smallpox vaccine was transmitted, this action is called *saka* in Hausa. So they just called the place Sakasaka. And the name has stuck. They even sometimes examined the people who were coming for any body lice and so on, when people were coming past the smallpox checkpoint – and if you had body lice, then they would lock you in a room and they would spray you.[84]

If WHO smallpox eradication is largely remembered for the fear engendered by forced vaccination, then the WHO-World Bank Onchocerciasis Control Program is remembered for its spraying – the large-scale treatment of northern river systems with DDT and other larvicides using helicopters marked 'ONCHO'.[85] For northern Ghana, the programme represented the height of what might be called the 'DDT era' of vector control. As debates on the environmental impacts of DDT and other dioxin insecticides took place in the United States and Europe, local disease control staff with relatively

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Group.16: Dagomba Community 1, Tamale Area, Interview 10 August 2015; Group.17: Dagomba Community 2, Tamale Area, Interview 10 August 2015; Group.18: Dagomba Community 3, Pong-Tamale, Interview 11 August 2015; Dr Sam Bugri, Interview, Tamale, 30 June 2015; Unlike other archives of the WHO, files on the smallpox eradication campaign are restricted, and subject to a vetting process before they can be released to researchers; for this reason it was not possible to cross-check these details with WHO documents. But see also Fenner, *Smallpox and Its Eradication*, 900–906.

84 Dr Sam Bugri, Interview, Tamale, 30 June 2015.

85 See Chapter 4

little training in aquatic pesticide use continued to deploy DDT in northern river systems, sometimes noting that their efforts had resulted in die-offs of fish and invertebrate life.[86] The Onchocerciasis campaign was also remembered for its employment of 'vector-collectors' or 'fly boys', often associated with colonial sleeping sickness campaigns, people who worked as living bait to survey river valleys for the parasitic *Simulium* blackfly that spreads the disease. WHO officials searched for a way to stop this practice in 1966, but Ghanaian medical officers insisted on its value, and it was still used in the 1980s.[87] As this suggests, the idea that a tenable distinction can be made between 'colonial medicine' and postcolonial (or non-colonial) medicine is undermined by the persistent use of similar methods and idioms across the period. Both colonial-era and postcolonial-era medicine were more substantially shaped by the concerns of a cosmospolitan medical community with its own internal prejudices, preferred methods, and competitions for status – at some points these concerns and prejudices were aligned with the broader political contexts for medical work, and at others they were not.

Although the principal vectors of direct WHO influence in the north from 1957-1981 were the campaigns against smallpox and onchocerciasis, the organisation was also involved with health consulting for a vast northern resettlement project proposed by the FAO and United Nations Development Programme (UNDP). During the last years of the CPP government, as spending on the region fell, the FAO conducted a survey of northern Ghana 'with the broad purpose of raising the economic

86 WHO/05/181/14 (1969), Enc.97: Report on Dry Season Operations and AFRO-131 Joint Project in Ghana, 24 August 1968; WHO/V2/86/19 (1971-1972) Onchocerciasis, Upper Volta, WHO Geneva, p.4; Noamesi, 'A Progress Report on the Control of Simulium Damnosum in Northern Ghana', 3–17.

87 WHO/05/181/14 (1969), Enc.76: Onchocerciasis Research Unit, Fourth Annual Report, October 1966 to September 1967, 6-7; Dr Von Asigri, Interview, Tamale, 30 June 2015; for discussion of 'fly boys' in sleeping sickness control, see Kirk Arden Hoppe, 'Lords of the Fly: Colonial Visions and Revisions of African Sleeping-Sickness Environments on Ugandan Lake Victoria, 1906-61', *Africa* 67, no. 1 (1997): 86–105; Luise White, *Speaking with Vampires: Rumor and History in Colonial Africa* (Berkeley: University of California Press, 2009), 220–25.

level of the northern population'.[88] Its proposals, published after the coup in 1966, included the development of an expansive irrigation scheme, covering 2,000 square kilometres and involving the resettlement of up to 300,000 northern people. The WHO was brought in to assess the health aspects of the scheme, although as Ghana's overall economy declined, the FAO's proposals for extensive northern development were never implemented. WHO staff discovered that the FAO had not consulted the Ghana Ministry of Health during the formulation of its plans, which had been developed only with the Ministries of Agriculture and Public Works. Instead the proposal envisaged that the WHO would make recommendations on the health aspects of the project, effectively bypassing Ghana's own health officials. The WHO insisted that the Ministry of the Health should be involved, pointing out that the creation of a vast network of dams and irrigation canals was likely to increase infection with malaria, bilharzia and guinea worm.[89] The affair gives an indication of the extent to which transnational organisations already held authority over some aspects of African health: both the FAO, and apparently Ghana's own Ministry of Agriculture, had considered that the WHO would oversee the proposed scheme. As the overall involvement of the WHO and other UN organisations in Ghana increased during the 1970s, their influence was also felt in the daily operation of northern health services. From the early 1970s, for example, all maternity kits in the country were supplied by UNICEF, as well as a sizeable proportion of all vehicles and basic clinical equipment used by rural health services, while from the late 1970s (as with other African states) the WHO held a significant degree of responsibility for the formulation and bulk-purchasing of Ghana's national list of essential drugs.[90] In the 1960s and 1970s in northern Ghana, the increased

88 WHO/CPD67.4 (1968), 15.
89 Ibid., 1–18.
90 PD/232 Box 18/02/02726 (1978-93), Enc.7: 'Preparation Of The 1979/80 Annual Estimates', MoH, Accra, January 1979; PD/65/v2 Box 27/02/02735 (1972-1981), Enc.9: 'Development of Basic Health Services, Plan Of Operation, Ghana, Second Edition 1972'; and Enc.1: C.A.A Quenum,

presence of WHO personnel created what was to some extent an alternative centre of medical authority to the Ministry of Health in Accra. In 1974, for example, a WHO consultant at the Medical Field Units' northern base observed that 'the visitors book in the guest cottage reads like a Who's Who of regional and international public health'.[91] The onchocerciasis campaign, among the most extensive interventions in the region's health over the century, was directed from the WHO's International Centre for Vector Control across the northern border in Upper Volta, and overseen by the WHO African Regional Office on Onchocerciasis based in northern Ghana itself, in Bolgatanga.[92] As I discuss below, the establishment of these WHO offices drove a growth in subsidiary research institutions, often funded by international universities, which were influential in the evolution of northern health services during the structural adjustment era.

The Rawlings government, structural adjustment, and Ghana's health system

Ghana's turn to structural adjustment in 1983, under the military government of Jerry Rawlings, has been extensively studied in terms of its overall economic impacts, as Ghana was among the first African countries to accept IMF/World Bank mandated structural adjustment in exchange for development loans. In some analyses of late twentieth-century African economic history, Ghana's adjustment programme is seen as an outstanding success. Austin, for example, argues that the country was 'one of the two most successful cases of structural adjustment in Africa, the other being Uganda'.[93] Arguments of this kind are often based on aggregate growth figures without close regard to distributional effects, suggesting that structural adjustment succeeded

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Regional Director WHO, Brazzaville to Director of Medical Services, MoH Accra, 29 July 1981.

91 WHO/P9/445/8/GHA (1973-1975), Enc.93: Dr J. Stromberg, WHO Division for Strengthening of Health Services, to Dr J.A. de Vries, Johns Hopkins University, 26 April 1974.

92 WHO/V2/86/19 (1971-1972), Enc.4: 'Proposal for biological control of disease-transmitting blackflies', 10 July 1972, 18-26.

93 Austin, 'African Economic Development and Colonial Legacies', 3.

because Ghana's economic growth averaged over 5 percent annually from 1983 to the end of the century.

However, there is an equally substantial body of research which argues that although the acceptance of structural adjustment brought an immediate influx of loan funding, while austerity measures freed up government funds for some infrastructure development projects, and devaluation of the currency boosted revenues from some export products, the programme was ultimately a failure on its own macroeconomic terms.[94] After an initial rise in per capita GDP to over 5 percent per annum from 1983 to 1989 (a period when many African states embarked on structural adjustment reforms on the basis of Ghana's initial success), this fell back during the 1990s. The country's total foreign debt more than doubled between 1983 and 1987, and continued to rise: as Gocking puts it, 'to many people it seemed as if Ghana had lost control over its own economic policies to the IMF and World Bank, and hordes of foreign consultants took over the day to day operation of the economy'.[95] The costs of structural adjustment austerity were consistently passed to peripheral regions and the rural poor, whom the IMF and World Bank has cast as one of the principal beneficiaries of their recommendations. In 1989, faced with growing public criticism, the Rawlings government announced a 'Program of Action to Mitigate the Social Cost of Adjustment', which chiefly attempted to boost the rural economy by raising the price paid for cocoa to smallholder farmers. It had little effect in the north. There, rising poverty as a result of trade liberalisation and currency devaluation after 1983, and substantial cuts in local spending on health and education services, drove a greatly increased number of destitute northerners to migrate to squatter settlements around

94 See, for example, Egor Kraev, 'Towards Adequate Analysis and Modeling of Structural Adjustment Programs: An Analytical Framework with Application to Ghana' (Thesis, University of Maryland, 2004).

95 Gocking, *History of Ghana*, ch.10; Kraus, 'The Struggle over Structural Adjustment in Ghana', 20.

southern cities.[96] As Richard Jeffries noted during interview research in the 1990s, even supporters of the Rawlings government and its economic reforms considered that 'the government has saved the economy at the expense of the people'.[97]

This is not to say that there was no improvement in some aspects of healthcare for Ghana as a whole, or in particular areas of northern healthcare. Health spending and the overall Ghana health service had already reached a point of near-collapse by the time Rawlings and the PNDC seized power from the civilian government of the northerner Hilla Limann, in 1981. Between 1976 and 1980, at a time of falling export revenues after prolonged droughts, and during the fuel crisis which followed the 1973 oil embargo, health spending in Ghana had been cut by almost 80 percent.[98] Documents in the Public Records division of Ghana's national archives reveal the extent to which economic decline had undermined health provision even in the southern cities by 1981, principally as the result of a sustained shortage of basic drugs. These documents also reveal the extent to which structural adjustment donors and their agents subsequently came to control the central administration of Ghana's health system in Accra – and how association with a body like the World Bank or WHO could confer significant political power on individuals who were unaccountable to the government. For example in 1992, as the PNDC sought to reassert a degree of Ghanaian control over state ministries (ahead of a planned democratic election at the end of the year), it discovered that over the preceding years a temporary Ghanaian contractor to the World Bank, Colonel P.K. Awuku – apparently acting without the knowledge or permission of higher state officials – had successfully assigned himself

96 Agyei-Mensah and de-Graft Aikins, 'Epidemiological Transition', 887; Gocking, *History of Ghana*, 199.

97 Richard Jeffries, 'Urban Popular Attitudes towards the Economic Recovery Programme and the PNDC Government in Ghana', *African Affairs*, 1992, 214.

98 Carolyn Baylies, 'The Meaning of Health in Africa', *Review of African Political Economy* 13, no. 36 (1986): 71.

the role of Director of Supply at the Ministry of Health, where he had attempted to assume control of drugs purchasing for the country.[99]

The World Bank's influence on healthcare was evident even in minor spending decisions. Ghanaian health officials had to obtain permission from the World Bank Permanent Mission in Accra before they could increase or cancel small orders (worth less than $5,000 in some cases) for drugs or other medical equipment, slowing down the supply of these necessities to outlying regions.[100] Dependent on the approval of external financial consultants, Ghana's severe drug shortages persisted well into the structural adjustment era. In 1986, despite significant growth in headline figures for the economy since 1983, Ministry of Health officials reported that the country had almost run out of critical basic drugs including penicillin, ampicillin, and cloramphenicol antibiotics, and meningitis vaccine:

> Most of the items are not available in the system, or the physical stock levels at Central Medical Stores in Tema are very low. Again, no orders have been placed for any of these items under the 1986 Import Programme, thus making the situation very critical ... the non-availability of some of the items is making delivery of health care services extremely difficult.[101]

In 1992, after years of structural adjustment, supplies of anti-tuberculosis drugs ran completely dry. The Ministry of Health reported that 'TB treatment has come to a halt, and this has not been an acute situation. The situation has crept up slowly, with one drug being exhausted before the other, until we have the situation as it is now'.[102]

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99 PD/44 Box 15/02/2723 (1990-1992) Revolving Drugs Fund, PRAAD Accra, Enc.3: 'Implementation of Cash and Carry Drug Scheme', Bombardier Matthias Cudjoe, PNDC Co-Ordinator, to PNDC Health Secretary, 18 March 1992.

100 See, for example, PD/207v1 Box 31/02/02751 (1985-92) Canada Line of Credit, PRAAD Accra, Encs.2-3: Correspondence between Nicholas Bennet, Health and Education Planner, World Bank Permanent Mission in Ghana, and J.A. Maafo, Project Management Unit, MoH Accra, April 1991.

101 PD/224 Box 1802/02726 (1986-89) World Bank Health Fund (Facility for Drugs), PRAAD Accra, Enc.1: Dr Moses Adibo, PNDC Secretary for Health, to UNICEF Procurement and Assembly Centre, Denmark, 14 July 1986.

102 PD/85 Box 27/02/02735 (1994) Medical Stores, General Correspondence, PRAAD Accra, Enc.3: 'Current Drug Situation At The Department Of Chest Diseases, Korle Bu', Letter from Staff Doctors to PNDC Secretary for Health, MoH Accra, 27 March 1992.

Ghana became increasing dependent on charitable donations or bilateral credit lines to maintain a supply of basic drugs, with some state donors requiring that loans should be used to buy medical products that they produced. Britain had done the same with the Colonial Welfare and Development Acts, when it used development loans as a way of supporting its domestic economy.[103] As Western state donors publicised the aid programmes they had launched in tandem with Ghana's acceptance of economic liberalisation – an ostensible turn away from socialist influence – Ghana was concluding emergency credit agreements for drugs purchasing with China, Cuba, Bulgaria and East Germany.[104] As opposed to these lines of credit, which also generate revenues for the creditor county, John Fetter has observed that in this period, very little bilateral aid money found its way to government health services across Africa. In 1988, only 3.7 percent of total aid spending was allocated to healthcare programmes, with only 1.5 percent allocated to primary health services.[105]

Instead there was an emphasis on the recovery of healthcare costs by African governments, through the introduction of fees for medical services. Described by international lenders as a way of increasing the economic efficiency of states undergoing structural adjustment, and of discouraging the 'frivolous' use of medical services, the principle of costs recovery was strenuously promoted by the World Bank in Ghana. Policies for costs recovery were also developed by the WHO and UNICEF as a way of expanding community health services that had collapsed during the late 1970s. These policies were endorsed by African governments through the Harare Declaration and Bamako Initiative in 1987, although as Kojo Arhinful observes, Ghana

103 See PD/207v1 Box 31/02/02751 (1985-92); PD/221 Box 18/02/02726 (1993) Gifts of Pharmaceuticals, PRAAD Accra; PD/230 Box 18/02/02726 (1983-89) Bulgaria Line of Credit, PRAAD Accra; SD/15/TJ Box 27/02/02735 (1984-86) UK-Ghana Grant, PRAAD Accra; SD/222v2 Box/27/02/02735 (1980-1989) GDR-Ghana Line of Credit, PRAAD Accra.

104 PD/230 Box 18/02/02726 (1983-89), Enc.4: 'Negotiation Of Bilateral Agreement Between Ghana And G.D.R., Cuba, Bulgaria And China', 21 July 1986.

105 Fetter, 'Health Care in Twentieth Century Africa', 19–20.

had ‘virtually abandoned’ the Bamako model (which saw the WHO and UNICEF supply cheap drugs for sale at rural health centres) by 1990.[106] Instead, pressure from international lenders to increase costs recovery led to the introduction of an entirely decentralised system of user fees from 1992, implemented under the guidance of local World Bank advisors. Formally described as the ‘Revolving Fund’, but known to both government officials and the Ghanaian public as ‘Cash and Carry’, the new system required district health facilities to sell drugs at a substantial mark up, using the revenues to meet local costs and purchase new pharmaceuticals from central government stores.[107]

This forced a rapid and sustained reduction in the public’s use of health services across Ghana. Although there were officially exemptions on grounds of poverty, these often went unrecognised at local facilities – ‘in practice, virtually every Ghanaian ended up paying for public health services at point of use’.[108] Ernest Aryeetey and Markus Goldstein observe that as a result of costs recovery initiatives and other regressive spending policies, the poorest fifth of Ghana’s population received approximately 11 percent of total government health spending in 1992, while 33 percent of spending went to the wealthiest 20 percent.[109] For northern communities with relatively little spending power, served by health facilities that were unable to compete with the southern health system for allocations of available drugs, the turn to Cash and Carry had particularly pronounced effects on the ability of people to access basic

106 Arhinful, ‘Health Care In Ghana’, 53; And see Carbone, ‘Democratic Demands’, 388; Giles-Vernick and Webb, *Global Health in Africa*, 10.

107 PD/44 Box 15/02/2723 (1990-1992), Enc.1: ‘Cash and Carry – Design Workshop, memorandum from Dr Issaka-Tinorgah, Project Director for PNDC Secretary for Health, 5 October 1992; and Enc.2: ‘Implementation of Cash and Carry Drug Scheme’, Bombardier Matthias Cudjoe, PNDC Co-Ordinator, to PNDC Health Secretary, 10 January 1992; See also Carbone, ‘Democratic Demands’, 388–401.

108 Carbone, ‘Democratic Demands’, 388–89.

109 Ernest Aryeetey and Markus Goldstein, ‘Ghana: Social-Policy Reform in Africa’, in *Reforming Social Policy: Changing Perspectives on Sustainable Human Development*, ed. Jennifer L. Moher et al. (Ottawa: International Development Research Centre, 2008), 18.

government health services. In 2001 a former Director-General of the Ghana Health Service, Professor Badu Akosa, described the situation across Ghana after a decade of Cash and Carry:

> A gradual diminution in use of health facilities because of affordability, resulting in 69% of the population unable to attend or use the health service. The majority have resorted to self-medication, herbal or traditional medicine, or healing crusades or prayers, or resigned themselves to their fate not by choice, but purely because they cannot afford health care.[110]

Northern health in the adjustment era

In northern Ghana there were some tangible improvements in general infrastructure under the Rawlings government, with benefits for the provision of health services. Following the successful completion of the WHO Onchocerciasis Control Programme in northern Ghana, the PNDC government drew up a tailored development plan for the region, the Five-Year Regional and Rural Development Programme for the 'Oncho-freed Zone'. The plan anticipated a broad expansion of services in the north, premised on the idea that it was endemic onchocerciasis (and not systemic neglect) which had limited economic production and therefore hindered the earlier provision of basic services. The government's proposals included 'economic infrastructural development covering the rural health system, educational and communication facilities, the feeder road network, good drinking water, rural electrification, irrigation, and a rural human resource development programme'.[111] As with others before it, this ambitious plan achieved relatively little in regard to the expansion of physical health facilities in the region. As I discuss below, perhaps because of a sudden proliferation in the number of health-focused international organisations and NGOs operating in the region, from 1981-1992 little money was spent on expanding the government's own

110 Badu Akosa, 'Financing health care in Ghana: A case of open, honest and dispassionate debate', article in *Daily Graphic*, 10 February 2001, quoted in Arhinful, 'Health Care In Ghana', 54.
111 WHO/JCP Volumes/5-6 (1980-85), 16.

healthcare network. But other aspects of the PNDC northern development plan brought significant health benefits. At the beginning of the 1980s, the only northern settlement with regular electricity was Tamale, powered by an unreliable oil generator. Using World Bank loans, Rawlings launched a drive for rural electrification in the region – power supplies were extended into district capitals and smaller urban settlements, and eventually to some larger villages close to transport networks.[112] With refrigerators installed in northern district health centres, this greatly increased the reliability of vaccines administered through Ghana's participation in the WHO Expanded Programme on Vaccination, against measles, diphtheria, pertussis and tetanus. Electrification and refrigeration also allowed northern health services to use reactive vaccination as a control measure during the region's cyclical meningitis outbreaks, although large-scale preventive vaccination against meningitis only began in northern Ghana in 2010.[113]

For the north, the most noticeable change to public health services over the structural adjustment period came with the sudden proliferation of international organisations and NGOs at work in the region. Over the preceding two decades, the only international health organisations with a persistent presence had been the WHO and UNICEF, in addition to the international churches and mission groups that had operated some northern health facilities since the colonial period. A World Health Organisation report published in 1984, a year after adjustment measures began, reveals a greatly expanded number of organisations working in the region, running programmes aimed at boosting 'socio-economic development in the areas freed from onchocerciasis'. Many of these projects, also discussed in Chapters 4 and 6, were aimed at general economic development, on the premise that the north's 'valleys of

112 Ibid., 4–12.
113 Dr Sam Bugri, Interview, Tamale, 30 June 2015.

river blindness' had been opened for productive agriculture. This was the same idea that had guided colonial-era resettlement initiatives, which assumed that northern valleys had been made safe by tsetse fly control.[114] The sources for this period show the extent to which 'International Development' had gained purchase as an ideology and organising principle for the improvement of peripheral societies. Development planners confidently proposed precise rates of return for northern projects with vague end goals: for the reshaping of northern communities' dietary preferences towards increased consumption of fish, or a project which would 'decrease prevailing negative attitudes towards the forest'.[115] As Botchway argues, proposals for both health and general economic development in the north have consistently lacked a historical dimension to their assessment of poor health and poverty, instead seeing these problems arising 'primarily as a function of inadequate bio-physical characteristics and a poor application of economic principles'.[116]

Among the internationally-funded health projects underway by the mid-1980s was the Pong-Tamale Veterinary Laboratory Project, a 'multi-million West German Government-assisted project' intended to revive a defunct colonial-era laboratory, built in 1933 for surveillance and control of livestock diseases, for international research directed at the same goal. A separate and expansive programme for both health and general economic development, funded and organised by the Canadian International Development Agency, proposed to extend primary health care 'to over 80 percent of the rural population by the year 2000'. In part, this was to be achieved through a 'Mission Mobile Clinics and NGO Services Expansion Project'. Church groups, part-funded by the government of Ghana and by international donors,

114 WHO/JCP Volumes/5-6 (1980-85), 4–8.
115 Ibid., 5, Subsections 4-5.
116 Botchway, 'Are Development Planners Afraid', 36.

would assume responsibility for roaming rural health provision, taking on the role of the recently-dissolved Medical Field Units. Planners accepted that NGOs would in future take on an increasingly central role in northern health, 'to get more immediate results in terms of increased availability of healthcare'.[117] There were longer-term ambitions for Ministry of Health personnel to reassume full control of the region's health system, but the devolution of health services to NGOs in the north was not significantly reversed before the end of the study period (2000), and continues at present. Several of the former health officials I interviewed suggested that the north now has more health-focused NGOs than any other region of Ghana, with the implication that the region was therefore not in need of increased government attention.[118]

The increased role of international health agencies in the north from the 1980s, apart from the WHO, was also apparent in the launch of the global Guinea Worm Eradication Project in northern Ghana. In Chapter 6, I discuss how local health officials were able to divert resources away from this programme, to sustain a network of 'village volunteers' that reported on general community health needs. Although the WHO was responsible for certifying guinea worm eradication, the eradication project itself was launched by the United States Centres for Disease Control and managed by the Carter Centre charitable foundation, with filtration materials donated by Dupont, and subsequent funding provided by the Bill and Melinda Gates Foundation. As Vernick and Webb suggest, this period 'heralded a new world order', in which the influence of private philanthropic capital in global health surpassed that of the WHO or bilateral state donors. To some extent this was a return to the model of health funding

117 WHO/JCP Volumes/5-6 (1980-85), p.9-12, Section 6: NORRIP Health Program and Section 2.14: Pong Tamale Veterinary Laboratory Project.

118 Dr Moses Adibo, Interview, Accra, 17 June 2016; Dr Sam Adjei, Interview, Accra, 26 June 2016; Dr George Amofah, Interview, Accra, 26 June 2015.

that prevailed in the early 1900s, when the Rockefeller Foundation oversaw a number of international public health campaigns. Anne-Emanuelle Birn argues that the Rockefeller Foundation was created during a period of 'scientific philanthropy' influenced by Andrew Carnegie's 'Gospel of Wealth', which proposed that the world's industrial magnates should channel their riches towards societal goods 'so that the ties of brotherhood may still bind together the rich and poor'.[119] In the 1990s, with private capital again resurgent in international public health, the approach of the Rockefeller Foundation had itself been shaped by subsequent reconceptions of the relationship between private wealth and philanthropy: it called for venture capitalists 'to address social and/or environmental problems while also turning a profit'.[120] The increased participation of private philanthropic organisations in northern healthcare mirrored the accelerated entry of private capital in search of revenues from Ghana's people: from the late 1980s to 2000, 665 multinational firms established new offices in Accra.[121]

A final element in the shifting arrangement of northern healthcare institutions, from 1981 onwards, came with the expansion of international medical research in the region. In the colonial period there had been a single health-related laboratory in the region, the Pong-Tamale Veterinary Laboratory, established to immunise northern herds and to protect the livestock trade passing south from French West Africa.[122] A further research facility was added by the Nkrumah government, with the creation of the Onchocerciasis Research Section in Bolgatanga: this was part of the CPP government's National Institutes of Health and Medical Research, but the facility passed to WHO control after the National Institutes were disbanded by the NLC regime

119 Andrew Carnegie, 'The Gospel of Wealth', *North American Review* CCCXCI (1889); and see Birn and Fee, 'The Rockefeller Foundation and the International Health Agenda', 1618.
120 Rockefeller Foundation Impact Enterprise Project, quoted in Birn and Fee, 'The Rockefeller Foundation and the International Health Agenda', 1619.
121 Agyei-Mensah and de-Graft Aikins, 'Epidemiological Transition', 889.
122 See Chapter 1.

in the late 1960s.[123] The WHO subsequently re-based its onchocerciasis headquarters in Tamale, and after the regional onchocerciasis control programme concluded in the 1980s, it returned the laboratory to the government of Ghana. This became the Tamale Parasitic Diseases Research Centre, operated by the Ghana Health Service and co-funded by research groups managed by European states and universities, notably by the Leiden University Medical Centre and the Dutch Foundation for the Advancement of Tropical Research, who have financed research on the little-known intestinal parasite *Oesophagostomum* in north-east Ghana from the 1980s.[124]

The most substantial research facility in the north, and the most consequential for the future arrangement of northern health services, was established in Navrongo in 1988, with funding from the UK Department for International Development (DFID). Initially operated by the London School of Hygiene and Tropical Medicine, and subsequently by the Ghana Health Service, the Navrongo Health Research Centre has hosted multiple large-scale population studies and medical trials: for dietary supplementation with Vitamin A (1988-1992, funded by DFID); the clinical manifestations of lymphatic filariasis (1990-1994, funded by USAID); the use of insecticide-treated bed nets for malaria control (1992-1995: WHO and UNICEF); and the use of rectal artesunate for malaria treatment (1998-2006: WHO, TDR and NMDC). These are a small sample. From 1988 to 2016 the Navrongo Centre has hosted 126 multi-year studies and trials, funded by a broad range of public and private international health organisations.[125] The trials have often involved tens of thousands of people in the north-east, making use of a demographic surveillance and trial-recruiting

123 Hunter, 'River Blindness', 402–3; Ashitey, *Disease Control in Ghana*, 29.
124 Dr Von Asigri, Interview, Tamale, 30 June 2015; Juventus Benogle Ziem, 'Controlling Human Oesophagostomiasis in Northern Ghana' (Thesis, Leiden University Medical Center, 2006), ch.1.
125 Navrongo Health Research Centre, 'NHRC-Approved Funded Research Projects, 1988-2016', accessed 23 April 2017, http://www.navrongo-hrc.org/; Professor Fred Binka, Interview, Ho, 21 June 2016.

system that was developed with funding from the Rockefeller Foundation in 1993.[126] The centre's foundational placebo-controlled trial in dietary supplementation with Vitamin A, for example, recruited 22,721 children aged 9 months to 8 years old, while the randomised trial of treated bed-nets involved the monitoring of 6,053 family compounds.[127]

Some of these studies have been hailed as medical landmarks, informing the improved provision of public health services in Africa and worldwide. Along with the Noguchi Memorial Centre for Medical Research in Accra, the Navrongo Health Research Centre is one of West Africa's most active sites for internationally-funded medical research. Its establishment in the 1980s constitutes an implicit recognition (on the part of international health researchers) of the high prevalence of particular diseases and the general low provision of health services in the region, which give rise to a large study population in which particular diseases or nutritional deficiencies can be reliably observed. The location of the Navrongo Research Centres perhaps also indicates the relative ease of implementing large-scale medical trials at the economic periphery. At the time of its establishment, the north-east was Ghana's poorest administrative division, while it was also among the country's most densely populated areas. In his anthropological study of medical research in impoverished African communities, Paul Geissler has discussed the emergence of similar facilities elsewhere on the continent. He notes the incongruities of advanced medical research among communities whose health has been shaped by a political and economic history that cannot easily be

126 Navrongo Health Research Centre, 'NHRC-Approved Funded Research Projects, 1988-2016'.

127 See D.A. Ross et al., 'Vitamin A Supplementation in Northern Ghana: Effects on Clinic Attendances, Hospital Admissions, and Child Mortality', *The Lancet* 342, no. 8862 (1993): 7–12; F. N Binka et al., 'Impact of Permethrin Impregnated Bednets on Child Mortality in Kassena-Nankana District, Ghana: A Randomized Controlled Trial', *Tropical Medicine & International Health* 1, no. 2 (2007): 147–54.

accounted for in the research itself, even if individual researchers are well aware of this history:

> If African health science once dreamed of expanding modernity's reach across national territory (as in imperial colonization or postcolonial nation-building – "Africa as a laboratory"), using large cadres of public health staff, networks of field stations down to divisional level, and closed-circuited interministerial action, the contemporary global configuration of African laboratories reconstitutes technical modernity as an archipelago of a few high-powered and well-resourced islands of global science ... This peculiar geography of medical science in Africa —sharp boundaries between research sites and their surroundings, and hopping relations to distant overseas centers — makes for marked confrontations with inequality for those working at these sites.[128]

A century later: health in contemporary northern Ghana

In several of the developments discussed above there was an echo of older programmes, tried and then abandoned or dissolved at various points from the 1930s: the Mission Mobile Clinics that replaced the Medical Field Units, for example, or the reinvigorated work of colonial-era research facilities. This echo of older initiatives was particularly striking in regard to the rural healthcare system which eventually gained purchase in the north at the end of the century, and which finally offered a way of providing primary health services to communities previously considered beyond the reach of the state. This health system – Community-Based Health Planning and Services, usually called 'CHPS' – was another northern innovation that was subsequently adopted nationally, having been proven under conditions of poverty and long-term neglect. There is a sense in which the north was (and remains) Ghana's 'living laboratory', allowing the state to test new institutions under extreme conditions. If a mode of healthcare provision worked there, where people could afford little, and where little government infrastructure had been provided, then it was likely to flourish (and save the state some money) in the better-resourced districts of the south. The

128 Paul Wenzel Geissler, 'Public Secrets in Public Health: Knowing Not to Know While Making Scientific Knowledge', *American Ethnologist* 40, no. 1 (2013): 14.

CHPS health system, which currently constitutes the front-line of rural healthcare in Ghana, was developed from a community health study known as 'the Navrongo Experiment'. Overseen by the Navrongo Health Research Centre and funded by USAID and the Rockefeller Foundation, the Navrongo Experiment drew in approximately 171,000 people in north-eastern Ghana. It was designed to test new community health interventions in comparison with existing (or practically non-existent) government health provision:

> Treatment areas in Kassena-Nankana District will be comprised of four cells, of which three will involve instituting a basic primary health-care and family planning system in an area with approximately 3,000 compounds per cell, with a combined population of about 103,000 for the treatment areas. A comparison population of about 34,000 from a contiguous area will be provided with the usual service system of the Ministry of Health district health program in Navrongo, but with upgraded clinical facilities and staff training. A pure control area in a neighbouring district, also comprising a population of about 34,000, will be provided with the usual services of the Ministry.[129]

The Navrongo Experiment's success led to its national implementation as the CHPS system in the early 2000s, hailed as a landmark in the extension of primary health care in Ghana.[130] What is remarkable, however, is the extent to which this 'new' experimental discovery mirrored a much earlier northern success. The Native Authority healthcare system, created in the 1930s, placed a small number of trained health personnel directly into rural communities, where they worked closely with traditional leadership structures and their networks. The local nature of health provision was decided collaboratively, through consultation with Native Authority councils and the communities they represented, who provided both labour and time for activities like

129 Fred Binka, Alex Nazzar, and James F. Phillips, 'The Navrongo Community Health and Family Planning Project', *Studies in Family Planning* 26, no. 3 (1995): 126; Professor Fred Binka, Interview, Ho, 21 June 2016.

130 Dr J. Koku Awoonor-Williams, Interview, Navrongo, 2 July 2016; Dr Moses Adibo, Interview, Accra, 17 June 2016; and John Koku Awoonor-Williams et al., 'Bridging the Gap Between Evidence-Based Innovation and National Health-Sector Reform in Ghana', *Studies in Family Planning* 35, no. 3 (1 September 2004): 161–77.

disease surveillance, the maintenance of rural facilities, and assistance with treatment programmes. The Native Authority system was recognised as an outstanding success by local officials, the Gold Coast Medical Department, and by the communities themselves, who bitterly resisted its neglect and eventual closure over the independence transition (see Chapter 2), as the government at Accra reasserted control over a northern healthcare system associated with 'conservative' traditional elites and their resistance to nationalist politics. Apparently without knowledge of this colonial-era success, after decades when northern health provision had been subject to the vicissitudes of Accra politics and centralised budgetary allocations, the new health system proposed that successful northern health provision should again involve the placement of trained health personnel directly into rural communities, to 'mobilize the previously untapped cultural resources of chieftaincy, social networks, and village gatherings in order to promote community accountability, volunteerism, and investment in health services'.[131] Community health committees were established by councils of 'chiefs and elders', and regular regional gatherings of these committees (still called *durbars* by Ghanaian government officials, using a term imported by British officers from colonial India) were held to discuss the provision of local services. As with the NA healthcare system of the 1930s, the Navrongo Experiment and resulting CHPS system were immediately recognised as a success: in areas where the system operated, childhood mortality was halved.[132]

After the year 2000, when government passed from Rawling's NDC to the opposition NPP party under John Kufuor, in the third democratic general elections since 1992, there was a strenuous effort to increase the state's oversight and capacity

131 Awoonor-Williams et al., 'Bridging the Gap Between Evidence-Based Innovation and National Health-Sector Reform in Ghana', 162.
132 Ibid., 163.

for health service provision, reversing a decades-long cession of authority to international health agencies. As Carbone argues in his study of healthcare policy in the post-Rawlings era, 'the process of change is largely explained by the political competition set off by the new democratic regime ... the politicisation of health policy making that followed the country's democratic transition greatly reduced the weight of international actors'.[133] The introduction of a national health insurance scheme from 2003, and particularly the extension of the CHPS system to all northern districts, greatly increased the opportunities for northern people to receive medical treatment, and created a new network of advocates calling attention to problems in northern health.

Conclusion

This narrative of progress obscures a great deal. In the period from 1981-2000, as structural adjustment reshaped the Ghanaian economy, many of the worst effects were pushed northwards, to the detriment of northern health services. Shortages of drugs were significantly more pronounced than in the south – in 1984, for example, an investigation at the north's main medical stores in Tamale revealed that the region had no supplies of anti-helminthic, anti-protozoal or anti-TB drugs. Of the 17 different antibiotics recommended by government, only one (co-trimoxazole) was available, and stock records showed that in the preceding year there had been prolonged shortages of all anti-malarial treatments.[134] In 1992, during an outbreak of epidemic meningitis in the north, health officials found that no stores of meningitis vaccine had been maintained in Accra, and were forced to make an emergency appeal to UNICEF.[135]

133 Carbone, 'Democratic Demands', 396.

134 PD/68/v2 Box 27/02/02735 (1974-1977), Enc.6: Stock Control Report, Regional Medical Services Tamale, Returns on Drugs 4th Quarter 1984.

135 PD/85 Box 27/02/02735 (1994), Enc.2: 'Emergency Supply: Urgent Requirement Of Vaccines', PNDC Secretary for Health, Commodore O.S. Obimpeh, to UNICEF Ghana, 20 May 1992.

A decline in government health provision also drove the continued transfer of medical authority to Christian groups, funded by the government and licensed to directly import their own drugs. By 1992, 'Christian Health Associations' received a quarter of the Ministry of Health's total salaries budget, and one-sixth of the total healthcare budget.[136] Many of these Christian health groups were remembered favourably by northern communities, particularly in areas where Christian clinics and schools offered the best or only options for education and medical care.[137] However, as I have argued previously, the conferral of medical authority on religious organisations (particularly on Christian organisations in a region of mixed religions) is problematic in that it greatly increases their influence in other spheres: their ability to win support for both their religious and temporal activities among local communities, and therefore the extent to which they could shape local politics to further their own interests and secure their tenure in regard to health provision. As shown in Chapter 2, the operation of medical facilities by Christian groups led to praise for the churches and disdain for the government, from northern communities who saw Church healthcare as a competing service and not as a planned extension of government healthcare through funding grants.

Even when government health facilities were refurbished, or new facilities built in the 1980s and 1990s, there were still almost no personnel to staff them. In 1989, of the seventy government pharmacists employed by the Ghana Ministry of Health, only five (7 percent) were posted in the north: home to 19 percent of Ghana's population, and to a number of hospital and health centres without pharmaceutical staff

136 PD/232 Box 18/02/02726 (1978-93), Enc.5: '1992 Recurrent Estimates: summary of expenditure by programmes and objects', Ministry of Finance and Economic Planning, 19 February 1992.

137 See Group.10: Muriwie Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.11: Naachenyiri Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.17: Dagomba Community 2, Tamale Area, Interview 10 August 2015; Group.18: Dagomba Community 3, Pong-Tamale, Interview 11 August 2015.

– at that time there were more government pharmacists posted in the southern town of Cape Coast.[138] By the mid-1990s, responsibility for many aspects of northern health provision had been passed to international agencies. In the Upper West Region, for example, the Danish development agency DANIDA assumed control of drugs purchasing and distribution from 1996, an early stage of the Health Sector Support Programme that Danida continues to operate in the region at present.[139]

These examples indicate the continued marginality of the north at the end of the century, one hundred years after its incorporation into the colonial Gold Coast, and how this marginality had persistently shaped the region's health. It is impossible to know precisely how the continued neglect of health services, and high presence of many treatable diseases, shaped the relative economic and social development of the region over time: the feedback loop between poverty and a subsequent lack of political power, leading to poor health services that in turn gave rise to economically-limiting problems of public health. As the revival of the forgotten 'Native Authority' approach to healthcare under the CHPS system suggests, low expenditures and inconsistent staffing, and abrupt political transitions in Ghana as a whole, meant that the institutional knowledge of northern health needs (and the best way to address these) was regularly effaced. As structural adjustment advanced, the economic gap between the northern periphery and the coast widened considerably. In Ghana, formally-defined poverty fell between 1980 and 1999, from over 52 percent of the population to less than 40 percent. But in the three northern regions, poverty increased, and in 2008, 80

138 PD/93 Box 27/02/02735 (1989) Pharmacy Staff List, General, PRAAD Accra, Enc.1: 'Pharmacy Staff', Report from F. Yeliu, Deputy Director of Pharmaceutical Services to MoH Accra, 6 May 1989.

139 PD/229 Box 18/02/02726)(1994-96) Drug Management (Ghana Denmark Upper West supply program), PRAAD Accra, Enc.2: 'Ghana Denmark Health Sector Support Programme: Drug Supply Project, Upper West Region', Implementation Proposal June 1996; and see 'Danida Ghana: Health Sector', accessed 26 August 2017, http://ghana.um.dk/en/danida-en/health-sector.

percent of the northern population still lived in formal poverty.[140] In 1999, the stunting of growth among children as the result of malnutrition was found to be highest in the north, at 40 percent of all children (compared with 11 percent in the Greater Accra region), while levels of vaccine coverage were significantly below the national average, except in the districts where Catholic missions had assumed responsibility for public health.[141]

In the 1960s and 1970s, the north's migrant labourers would travel south during the dry season for work on the mines and cocoa plantations, before returning to work on family farms for the rest of the year. But from the 1980s many stopped returning, preferring instead to remain in informal settlements around southern towns where, despite their relative poverty, there was greater access to healthcare, education and employment. As Saul Agyei-Mensah and Ama de-Graft Aikins have shown, for health services in Accra this contributed to a 'double burden' of disease. For wealthier southern populations, the principle causes of death by this time were chronic diseases (high blood pressure or diabetes, for example), while for many of the northern immigrants who settled in the south, infectious diseases remained an important cause of death.[142] Dr Sam Bugri, a former regional director of health services who grew up in the north, recalled how the failure of government services and general economic decline reshaped the region's societies:

> At first it was seasonal migration – during the dry season they had nothing to do, so they went there to work in cocoa farms and other things. And then in the rainy season they came back here to farm. But later on it became a kind of permanent thing. They went and didn't come back again, not unless someone was sick. They came back probably for a funeral.[143]

140 Krüger Rasmussen, 'Pro-Poor Health Care', 15.
141 Kwadwo Konadu-Agyemang and Judith Shabaya, 'What Has Corruption Got to Do with It?: Understanding the Persistence of Rural-Urban and Inter-Regional Inequalities in Ghana and Zimbabwe', *GeoJournal* 62, no. 2 (2005): 36–40.
142 Agyei-Mensah and de-Graft Aikins, 'Epidemiological Transition', 890.
143 Dr Sam Bugri, Interview, Tamale, 30 June 2015.

CHAPTER 6

The past in the present: guinea worm south and north

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This final chapter discusses the divergent histories of guinea worm disease in northern and southern Ghana over the twentieth century. In the early 1900s, in many southern districts and urban centres, specific control measures and general improvements to water quality reduced the incidence of guinea worm, an economically debilitating disease that only became the focus of sustained control measures in the north from the 1980s. The chapter uses the disease as a lens through which to examine the long-term entrenchment of regional differences. As I hope to show in this introduction, guinea worm is a particularly suitable disease for this approach.

Guinea worm disease is caused by a parasitic nematode worm, *Dracunculo medinensis,* or the 'little dragon of Medina'. The parasite's common name, guinea worm, emerged from the era of the Atlantic slave trade in West Africa, when the disease was frequently seen among slaves and coastal populations. As both Latin and common names suggest, the worm was geographically widespread, and guinea worm disease is an ancient problem.[1] It was one of the first afflictions to appear consistently in historical records and archaeological data. Calcified worms have been removed from Egyptian mummies, and the disease is referred to in literature from ancient India, Greece and the Middle East.[2] It was a common theme in medical treatises across the last two millennia, appearing in work by Plutarch, Galen, and in the writing of Ibn Sina, who described its association with the city of Medina.[3] With the expansion of global

1 In past documents and current scholarship, the disease caused by the parasite is sometimes referred to as dracunculiasis or dracontiasis. I use 'guinea worm disease' or simply 'guinea worm'.

2 S. Cairncross, R. Muller, and N. Zagaria, 'Dracunculiasis (Guinea Worm Disease) and the Eradication Initiative', *Clinical Microbiology* 15 (2002): 223.

3 Susan Watts, 'Perceptions and Priorities in Disease Eradication: Dracunculiasis Eradication in Africa', *Social Science & Medicine* 46, no. 7 (1998): 800.

trade systems from the fifteenth century, guinea worm became a disease which occasionally affected travelling Europeans. But as some historians have noted, it continued to be seen as an affliction of the global 'other'. Infection among Europeans remained a curiosity during the slave trade and colonial eras, although the disease's painful course was occasionally recounted to burnish the reputation for fortitude of a Victorian explorer or colonial memoir-writer.[4]

Guinea worm disease is caused by the female *Dracunculo* worm, transmitted to humans by a miniscule freshwater crustacean (a copepod, or 'cyclops') which is the intermediate host for the worm's larvae. Copepods proliferate in bodies of still water, and once an infested copepod is ingested by a person drinking, male and female guinea worm larvae move from the crustacean into the lining of the stomach and mate. Over the course of nine months to a year, the female grows rapidly, up to a metre in length, and migrates through the connecting tissues, usually to the lower limbs. Here, once it has gestated a large number of its own larvae, the worm forces its way to the surface of the person's skin and causes a large blister. In an example of a parasite manipulating its host's behaviour, the worm creates an intensely painful burning sensation, prompting those affected to immerse the blister in cooling water. Once submerged in water, the female worm's head emerges from the blister and disgorges thousands of new larvae, which infest copepods and begin the cycle again.[5]

This is the basic biology and pathology, but there are also some particular features of guinea worm infection which make it a relevant focus for understanding the divergent health histories of northern and southern Ghana. First, the life-cycle and control of guinea worm were understood well before the extension of colonial rule across the Gold Coast and Northern Territories. Unlike onchocerciasis or epidemic

4 See, for example, the account of the nineteenth century explorer James Bruce, in ibid., 801–2.
5 Cairncross, Muller, and Zagaria, 'Dracunculiasis', 224–27.

meningitis, it was not a disease which lay beyond the reach of preventative medicine for part of the century. Guinea worm is one of the only diseases transmitted by drinking water alone: the association between the parasite and its intermediate copepod host was demonstrated in the nineteenth century by a Russian physician, at a time when germ theory was only beginning to gain purchase, and confirmed by Patrick Manson in 1895.[6] This understanding of the life-cycle of the parasite (and its dependence on the ingestion of copepods by drinking water) meant that from the beginning of the century it was seen as a candidate for regional control or local elimination, and eventually for global eradication.[7]

A further feature of guinea worm disease is that it has no effective drug treatment or clinical 'cure'. Until very recently there was no way to determine whether a person was infected before the emergence of the worm, and surgical removal of the worm from the tissues carries prohibitive risks and costs. The basic method of treatment has remained the same since antiquity. When it emerges, the worm is extracted over the course of days or weeks, by slowly winding it out around a piece of bandage or a stick – it has sometimes been argued that this ancient practice gave rise to what is now a near-universal symbol for medical work, the serpent around a branch called the Rod of Asclepius.[8] Unlike many aspects of colonial-era medical work, therefore, 'biomedical' treatment for guinea worm represented a relatively unusual convergence with long-standing African practices, rather than the displacement or newfound pluralism with which biomedicine has often been associated. Citing evidence from Nigeria, Susan Watts has argued that the lack of a novel or rapidly effective

6 Watts, 'Perceptions and Priorities', 801; Cairncross, Muller, and Zagaria, 'Dracunculiasis', 223.
7 For a discussion of the distinctions between control, elimination and eradication, see Eileen R. Choffnes et al., *The Causes and Impacts of Neglected Tropical and Zoonotic Diseases* (Washington, DC: National Academies Press, 2011), 46.
8 CDC-Centers for Disease Control and Prevention, 'CDC - Guinea Worm Disease - Eradication Program', accessed 27 August 2017, http://www.cdc.gov/parasites/guineaworm/gwep.html; Cairncross, Muller, and Zagaria, 'Dracunculiasis', 227.

treatment for guinea worm meant that affected people, 'recognising the limitations of the white men's medicine', were unlikely to seek treatment at colonial or postcolonial government facilities, which masked the extent of the problem from health authorities.[9] But there is also much evidence that the pain and distress associated with the disease drove people to seek help from any available practitioner, and often from official facilities, perhaps because analgesics were also available there. This was certainly the case in the colonial Gold Coast.

As there was no effective clinical cure, the control of guinea worm disease in the twentieth century very closely tracks the provision of access to clean water: through the installation of urban treatment plants and piped supplies, the construction of boreholes or clean wells in villages, or through the provision of personal 'drinking straw' mesh filters, the preferred method of the international Guinea Worm Eradication Program that began in the 1980s.[10] Like other pathologies in the group now designated as 'Neglected Tropical Diseases', this means that guinea worm disease acted as a proxy marker for broader regional development, and for the political importance accorded to particular places or people across the century.

Another relevant aspect of the disease is the well-established body of knowledge regarding its social and economic impacts. Guinea worm infection is rarely fatal, except as the result of secondary infections which can be contracted when the worm comes out through the skin, or if it breaks inside the body during extraction. However, over the period of its emergence and extraction, sufferers are partially or entirely disabled through pain and the effects of the parasite on the affected limb. Recent studies have demonstrated the severe impacts of this debilitation on agricultural

9 Watts, 'Perceptions and Priorities', 803.
10 For a discussion, see Hotez, 'NTDs and Poverty', workshop proceedings in Choffnes et al., *The Causes and Impacts of Neglected Tropical and Zoonotic Diseases*, 37.

communities. Research in Nigeria, conducted in 1989, found that almost all guinea worm sufferers experienced a period of partial disability averaging three months in length. The study also found that 58 percent of those infected experienced a period of near-total disability, with sufferers unable to leave their compounds, lasting an average of a month. Most of those infected were in the 15-49 year age group, critical for agricultural production, and disability caused by emerging worms most commonly took place during the yam and rice harvest (the larvae having been ingested nine months to a year previously).[11] Another study, drawing on village surveillance activities from the Guinea Worm Eradication Program in northern Ghana, found that a third of sufferers continued to experience difficulty in performing some daily tasks 12-18 months after the worm had emerged, and that one in every 200 experienced permanent serious disability through the destruction of joint tissues.[12] Guinea worm infection confers no immunity, so it is possible for people exposed to contaminated water to become repeatedly infected each year.[13]

Sandy Cairncross, who conducted epidemiological research on the disease as part of the eradication programme, observes that the debilitating effects of guinea worm are amplified, in social and economic terms, by a seasonal pattern of worm emergence which maps onto peaks of agricultural activity in West Africa:

> This seasonality means that a whole community can be laid prostrate simultaneously, and household members can be prevented from substituting for one another in agricultural and other tasks. Indeed, it has been claimed that the effect of the disease on agricultural productivity can be detected in satellite photographs. The Dogon people of Mali refer to the infection as 'the disease of the empty granary' - the impact of guinea worm disease does not end when the worm is out and the sufferer returns to work.[14]

11 G. Smith et al., 'Disability from Dracunculiasis: Effect on Mobility', *Annals of Tropical Medicine & Parasitology* 83, no. 2 (2016): 151–58.
12 M. Hours and S. Cairncross, 'Long-Term Disability due to Guinea Worm Disease', *Transactions of the Royal Society of Tropical Medicine and Hygiene.* 88, no. 5 (1994): 559.
13 Cairncross, Muller, and Zagaria, 'Dracunculiasis', 228.
14 Ibid., 223.

Recent research has further indicated the effects that guinea worm specifically, and a burden of parasitic diseases more generally, may have on education and the development of cognitive ability. In the first case this is because long periods of school are missed, both by children affected by the disease, and when children are asked to work in place of infected adults – to the extent that schools in some endemic areas have been compelled to close for a month each year. It has also been suggested that a heavy general burden of parasitic diseases, including guinea worm, can measurably impair the development of memory formation and other cognitive functions in children and young adults.[15]

In recent years, and increasing noticeably in the 1980s, with the turn to structural adjustment and rise of metric-led donor interventions into African health, this recognition of the impacts of guinea worm has led economists to try and calculate the economic 'rate of return' to be had from guinea worm control.[16] But its social and economic effects were already recognised by colonial authorities at the beginning of the twentieth century, when guinea worm was seen as a disease 'of greatest economic importance', affecting African labour and military recruits.[17] Along with the knowledge that the disease could be controlled by improving water, this led to an early attempt to eliminate guinea worm in the urban centres of the coastal south, as part of a broader move towards improved colonial sanitation and accompanying urban segregation.

This chapter, then, attempts to chart the differential evolution of guinea worm control in the north and south over the century. While guinea worm had largely been brought under control at the coast by 1930, in the north it was only addressed seventy

15 See Eppig, 'Parasite prevalence and the worldwide distribution of cognitive ability', workshop proceedings in Choffnes et al., *The Causes and Impacts of Neglected Tropical and Zoonotic Diseases*, 229.

16 Kelly Callahan et al., 'Contributions of the Guinea Worm Disease Eradication Campaign toward Achievement of the Millennium Development Goals', *PLoS Neglected Tropical Diseases* 7, no. 5 (2013): 2160.

17 1907 MDAR, 10.

years later, as part of the transnational Guinea Worm Eradication Program (GWEP) that began in the 1980s, and was emblematic of Ghana and the north's new situations in the era of structural adjustment. Although the recent impacts of guinea worm disease have been studied by researchers and donor agencies, there has been little attempt to study it as a historical problem affecting northern communities, which contributed to the region's divergence from the south. Over the course of the century, the disease may have had a significant and unacknowledged effect on this divergence.

The chapter's structure is as follows: after a brief discussion of existing scholarship on guinea worm, I discuss the disease as a public health problem in the early southern Gold Coast, and examine how it was brought under control in southern settlements over the first decades of the twentieth century. This includes a brief history of government programmes for the expansion of water supplies in the colony. I follow this with a comparative discussion of guinea worm in the north, and northern water supplies over the same period. In the second section of the chapter, I look at guinea worm in the north from the 1930s to independence in 1957, noting the advocacy of individual colonial officials towards improved health conditions in the north, and the way in which guinea worm infection was increased by the same misplaced developmental plans as onchocerciasis. In the final section, I assess the history of northern guinea worm control (and water provision) from independence to the transnational eradication programme which began in the 1980s, funded by various international bodies and led by the Carter Foundation. I also examine the role played by one northern Ghanaian, Dr Sam Bugri, in the development of guinea worm control and northern public health.

The historiography and ethnography of guinea worm control

Although guinea worm is often mentioned in survey histories of disease and medicine in Ghana, the disease and its related control programmes have not yet been the subject of much focused attention by historians, either for the north or for the country as a whole.[18] The same is broadly true for other countries in Africa and Asia. The global eradication campaign against the disease began relatively recently – work started in Pakistan and Ghana in 1987, and this is perhaps too recent for the kind of campaign-focused research which constitutes a large part of the historiography on twentieth-century medicine in Africa. Well-funded and with an extensive public-relations apparatus, the Guinea Worm Eradication Program has to some extent been able to write its own history, in a manner comparable to the WHO's Smallpox Eradication Programme. The detailed official history of smallpox eradication, written by the programme's leader Frank Fenner, remains a central reference for what took place at the height of activity in the 1970s.[19] But the WHO archives on country-level smallpox eradication are difficult to access, and go through redaction before they are made available to external researchers. Many historical assessments of the guinea worm eradication campaign have also been written by those who were involved, and it is only relatively recently that work has been written on the campaign by 'outsiders'.[20] For Ghana, this includes research by Amy Moran-Thomas, published in 2015.[21] Moran-Thomas makes an ethnographic study of the final stages of the Carter Centre's guinea

18 See, for example, Patterson, *Health in Colonial Ghana*, ch.4; Scott, *Epidemic Disease in Ghana*, ch.1.

19 Fenner, *Smallpox and Its Eradication*.

20 For an example of work produced by those who worked on the campaign, see Cairncross, Muller, and Zagaria, 'Dracunculiasis'.

21 Amy Moran-Thomas, 'The Creation of Emergency and Afterlife of Intervention: Reflections on Guinea Worm Eradication in Ghana', in *Medical Humanitarianism: Ethnographies of Practice*, ed. Sharon Alane Abramowitz, Catherine Panter-Brick, and Peter Piot (Philadelphia: University of Pennsylvania Press, 2015), ch.11.

worm eradication work in northern Ghana in 2008, at a time when the country, which was one of the last to achieve eradication, was recording only 500 cases each year.

Moran-Thomas writes critically about the persistence of the late campaign's 'emergency imaginary' in Ghana – the flotsam of campaign information material and community engagement activities which persisted in the public realm, even as the campaign drew to a close and the impacts of guinea worm became less evident in relation to other urgent health problems in the region. She discusses the vocabulary of disease emergencies, noting the ubiquitous martial language used in 'wars' on disease, and concludes that the guinea worm eradication programme constituted an 'iconic' example of an externally imposed, vertical, 'magic bullet' campaign (relying on the technological fix of individual water filters). She also concludes that the programme focused resources on what she appears to see as a relatively unimportant disease (not a 'killing disease', like diabetes), and that it may ultimately have undermined the broader provision of public health, leaving behind a network of unrewarded rural volunteers. This thesis shares many of her interests and concerns with the 'afterlife' of public health interventions, for guinea worm as well as for smallpox, sleeping sickness, and onchocerciasis.

However, Moran-Thomas, working in the ethnographic present at the tail end of a decades-long campaign, arguably fails to set recent guinea worm control work in northern Ghana in its longer historical context. As discussed above, although guinea worm was rarely a killing disease, it was the cause of extensive suffering and disability, which in turn gave rise to economic privation and increased mortality and morbidity – in part by amplifying diseases of nutritional deprivation like kwashiorkor, which she cites as more deserving of attention. A defining characteristic of the 'neglected tropical diseases' is that they usually cause little direct mortality, but instead bring high

morbidity and a great deal of indirect mortality, through their impact on the ability of communities to sustain themselves.[22] There were numerous instances over the twentieth century in Ghana – notably during the colonial period in regard to yellow fever research – when resources were diverted away from control of widespread diseases affecting African subjects, on the grounds that a disease like yellow fever was potentially a more fearsome 'killing disease', even though it affected far fewer people. And although the guinea worm eradication programme was ostensibly a vertical, single disease campaign – certainly from the perspective of donor funders – on the ground it morphed into something broader. As this chapter shows, the networks of guinea worm 'village volunteers' and district workers, mobilised and funded through the Carter Centre programme, took on an expanded unofficial role in public health provision across much of the north. The volunteers monitored their rural communities for many other diseases, alerting health workers to problems, and helped with general health education and the improvement of water supplies. This additional activity was contrary to the wishes of 'vertical' external donors, and came at a time when the Accra government was making little provision for expansion of the northern health system.

Nor was the campaign focused on a single technological 'magic bullet'. Unlike smallpox, where a single vaccination could prevent future transmission of the disease, or the use of Ivermectin as a mass therapeutic agent for onchocerciasis, guinea worm control relied on a matrix of different measures over time: on various forms of improved water provision, including individual filters, but most critically on education and community surveillance by volunteers. By 2008, near the end of Ghana's guinea worm eradication programme, the disease would certainly have appeared less important than many other local health problems. Drawing on personal observations about the

22 Callahan et al., 'Contributions', 3.

relics of a spent campaign – the mass of guinea worm posters and hoardings still on show in the north, for a disease which barely existed any more – Moran-Thomas makes an argument about the misplaced attentions of public health work. But underneath the old posters about guinea worm control, hung in clinic waiting rooms or plastered on bus shelters in the north, you will sometimes also find an even more tattered poster about the Onchocerciasis Control Programme (1970s-1980s). The public awareness materials which accompanied the earlier smallpox (1960s-1970s) or yaws (1930s-1970s) campaigns are long gone, but they were once hung in the same places. In my interviews people remembered all four diseases as serious afflictions of the past, and nobody considered that the campaigns which ended them had been a misuse of resources.

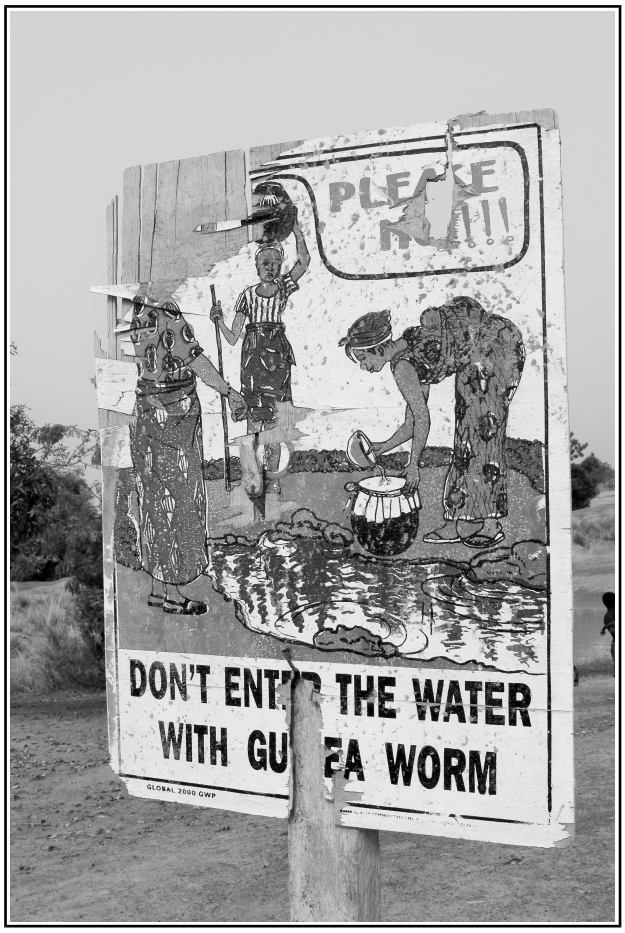

Figure 27. Taha, northern Ghana, March 2006. Faded sign from the Guinea Worm Control Program
Source: Carter Center Health Programs Photos / E.Staub

This may be an undeserved degree of criticism for one of the few non-medical studies of guinea worm in northern Ghana. Despite the strengths of Moran Thomas' study, I mention it here as an example of a pervasive problem in the scholarship on northern Ghana: a failure to historicise research on recent decades, with the significance of long-standing problems obscured by assumptions about the current state of affairs. Jeff Grischow and Holger Weiss have written about the same phenomenon in recent studies of seasonal famine in the north, and Karl Botchway has documented the lack of historical awareness which underpinned a great deal of recent donor-funded development in the region.[23]

In relation to Africa more broadly, research by Susan Watts seeks to situate guinea worm control in context of the longer-term development of public health and political change. Watts argues that in the non-settler colonies where guinea worm was principally found, the life-cycle of the parasite meant that it was rarely encountered by Europeans, and the diseases was therefore almost entirely neglected until it affected conscripted African troops. This happened in Sudan in 1911, giving rise to a flurry of new research.[24] Through examination of the history of guinea worm in rural communities around Ilorin, in western Nigeria, Watts observes that misplaced development work in the late colonial period and early independence era, notably the dam building of the 1960s, gave rise to an unanticipated increase in infections. She discusses local knowledge of the disease, observing that its association with water was known to many communities (even if the exact mode of transmission remained unclear), and describes how guinea worm eradication evolved from the global campaign against smallpox.[25] Many of her conclusions are borne out in the history of

23 See Grischow and Weiss, ‘Colonial Famine Relief”; Botchway, ‘Are Development Planners Afraid’.
24 Watts, ‘Perceptions and Priorities’, 802–5.
25 Ibid., 808–10.

guinea worm in northern Ghana. With little other research focused on these aspects of the disease, Watts' paper is to some extent a foundational study of guinea worm in the history of twentieth century West Africa, and her work on Nigeria is an important comparative study for this chapter.

Part 1. The early Gold Coast gets the worm: the elimination of guinea worm in the urban south, 1900-1930

The disease in the south

It is clear that guinea worm was recognised as a serious problem, at least for some groups of people, from the formalisation of colonial rule in the southern Colony in the late nineteenth century. The colonial administration saw the disease as a drag on the coastal economy and the efficiency of military recruits, while the Gold Coast Medical Department noted that it made significant demands on the limited funding allocations made towards African healthcare. In 1899, Guinea worm was recorded as the principal disease for which African subjects at the coast applied for government treatment.[26] Across the century in Ghana, malaria has generally been the most prevalent disease in official records of in-patient and out-patient cases. This was the case in the early 1900s, when cases of malaria were recorded in detail according to symptomatic classifications ('tertian fever', 'bilious remittent fever' or 'blackwater fever', among others). However, in these early decades of colonial rule there were many successive years when the number of cases of guinea worm were exceeded only by malaria as the most commonly encountered disease.[27] In 1900 the Medical Department treated more cases of guinea worm than malaria, and through the 1910s medical

26 1899 MDAR, 316.

27 See, for example, 1907 MDAR, 3 and Annex I, Disease Returns; 1908 MDAR, Annex I, Disease Returns; 1912 MDAR, 4 and Annex I, Disease Returns; 1914 MDAR, 6 and Annex I, Disease Returns.

officers at some coastal hospitals complained about the demands that guinea worm made on their resources.[28] In 1905 in Winneba, for example, the colonial dispensary reported that a third of all African patients (approximately 600 that year) were seeking treatment for guinea worm, many because they had experienced an unsuccessful worm extraction at home. This runs counter to Watt's argument about similar extraction methods deterring attendance at government facilities.[29]

There were many indications of the Gold Coast government's concern about the impacts of the disease, and Medical Officers directed their research efforts towards its control. Officials had raised an alarm in 1901, noting that native police and other employees were severely affected by the disease, and insisting on the provision of filtered water to these groups.[30] Similarly, in 1906, medical officers in Accra carried out their own version of John Snow's famous Broad Street Pump investigation. They tracked down an urban pond called the Akim Tank, a contaminated source of drinking water that had given rise to guinea worm infections among the African population, and ensured that it was enclosed with concrete and the water filtered.[31] These early water improvements prefigured the extensive works that took place in the following decade. Medical officers also spent time researching the life cycle of the guinea worm parasite: some of the earliest local work had been done in the preceding century by the Sierra Leonian doctor James Africanus Horton, who mistakenly believed that the parasite was contracted through the soles of the feet.[32] The copepod mode of transmission was well established by the 1900s, and in 1905 a guinea worm specialist, Dr Leiper, was commissioned to undertake a study in the Gold Coast: his work was seen as proving

28 1900 MDAR, 7.
29 1905 MDAR, 15.
30 1900 MDAR, 31.
31 Ibid., 34.
32 See Cairncross, Muller, and Zagaria, 'Dracunculiasis', 223.

conclusively that the local disease was similarly caused by infested copepods ingested in drinking water.[33]

Research interest in the disease, and concern about the impacts of guinea worm on colonial revenues, came together in 1907 in a report written by medical officer W. M. Graham. His research was based on investigations across the Gold Coast, although the bulk of his conclusions on guinea worm had been drawn from a posting at Gambaga, in the far north-east, where he had observed the effect of the disease on military recruits. Graham couched his conclusions directly in terms of expenses and lost revenues, writing that:

> The disease caused a larger annual loss to Government than all other native diseases in the aggregate ... Guinea Worm disease is of great economic importance on the Gold Coast, as it causes the largest annual admission to the Sick Lists in the various native services maintained by the Colony.[34]

His report, which circulated in London and locally, recognised that attempts to control the spread of the disease by curative methods or behavioural restrictions would be impossible, 'as it is impossible to control the action of thirsty men'. Graham instead recommended a programme of water improvements: the closure and filling in of existing drinking pools or tanks in a settlement, and their replacement with deep wells lined with a concrete parapet, ideally accompanied by a pump, and ultimately the installation of public stand-pipes to supply urban drinking water.[35]

33 1905 MDAR, 12.
34 1907 MDAR, 25–27, Appendix: Report on Guinea Worm.
35 Ibid.

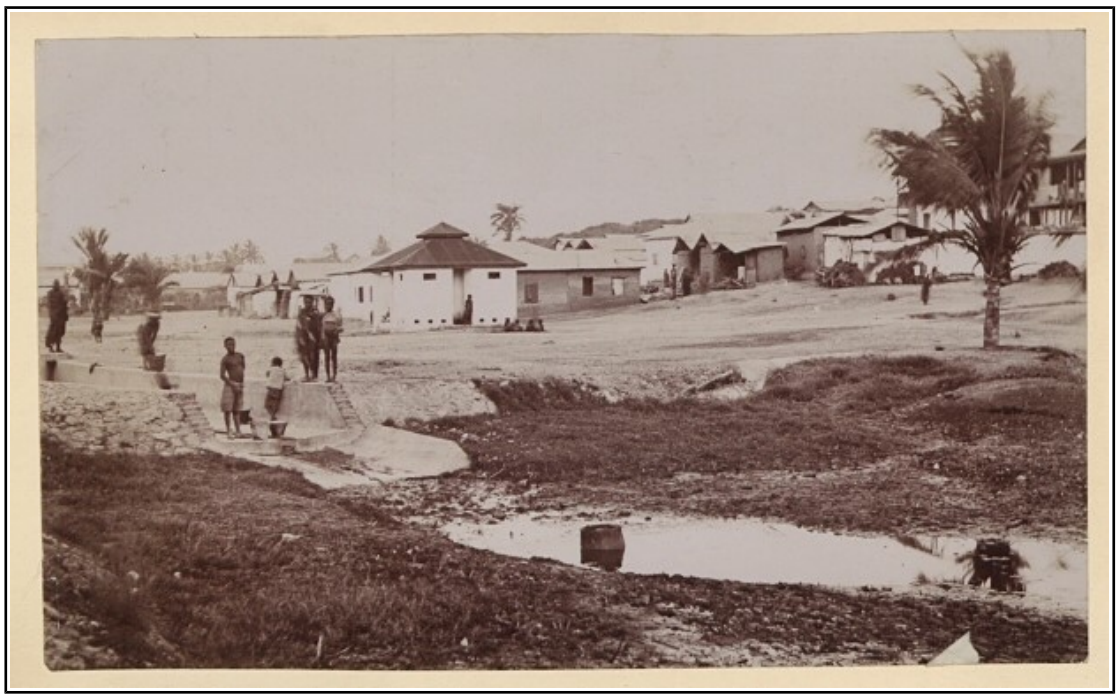

Figure 28. Reclamation and concreting of an urban water source, Accra, 1914.
Source: TNA, Colonial Office photographic collection, CO 1069-40-33

Figure 29. Water pipeline, Sekondi, c.1914
Source: TNA, Colonial Office photographic collection, CO 1069-45-29

The development of southern water supplies

From 1910 onwards, the recommendations made by Graham were rolled out across the coastal centres of the Gold Coast. In some cases this was done with the direct intention of reducing guinea worm transmission, but also as part of a broader shift towards the improvement of living conditions in southern communities, in part to attract new trading and mining firms. The annual medical report from 1912 argued that in the preceding decades, some traders and colonial officials had deliberately spread the idea that the Gold Coast was an unhealthy destination, in order to deter the ingress of competitors:

> This colony is overshadowed by a curse, the curse of a bad name ... to preserve the monopoly of an extraordinarily lucrative trade, merchants have damned the place by giving it a bad name, and thus crippled all attempts at developing the resources of the Colony. We can at least serve one useful purpose – we can show that we enjoy no monopoly of any peculiarly fatal and malignant disease. There can be no doubt that in the past, officials as well as merchants have caballed to keep up the evil reputation of the Colony.[36]

Improved water supplies at the coast, and in inland mining communities, were to some extent a way of countering this reputation in Britain, at a time when the colonial administration was expanding and private firms were importing a large number of British mineworkers. Water supply improvements were also linked to new ideas about urban sanitation and racial segregation in colonial Africa. But as Graham's report, earlier recommendations after the 'Akim Tank' investigation, and the provision of filtered water to the Native Police demonstrated, concerns about guinea worm also played a part in the rapid expansion of potable water supplies from 1910.

By 1910, the Gold Coast administration had begun work on piped water supplies for Accra and Sekondi, although the first town in the colony to get piped water was the gold mining settlement of Obuasi, where 12 public standpipes had been

36 1912 MDAR, 4.

installed by the mining company.[37] Already, by 1900 the only stagnant or guinea worm-infested water sources in the coastal towns were considered to be in 'Native' areas, and these were in the process of being improved.[38] A similar process of replacing ponds with wells was under way in the larger inland towns, and from 1910 developments accelerated rapidly. By this time health officials had developed an apparently detailed picture of the state of water provision in the south, although as later developments would show, almost no attention had been paid to water supply in the Northern Territories. The medical department reported that in 1910 there were 38 public wells, 1,224 private wells, 130 public and 854 private water tanks, and 3,043 water barrels across the Colony and Ashanti's various settlements, with 80 percent of these now 'protected' from insect larvae.[39]

37 1910 MDAR, 54.
38 1900 MDAR, 14; 1902 MDAR, 28–29.
39 1910 MDAR, 54–55.

The installation of new water supplies often proceeded without the involvement of health officials, giving rise to complaints from the Medical Department: this lack of medical oversight came to have serious implications for the spread of both onchocerciasis and guinea worm, before and after independence.[40] In 1911 the drinking water supply in the 'Native' areas of some settlements was still considered ‘little better than liquid sewage’. But water works were in an advanced stage of construction in Accra and Sekondi, and plans were underway for piped water in the coastal towns of Cape Coast, Saltpond and Winneba.[41] In 1912, more than thirty settlements in the Colony and Ashanti reported water supply improvements, including the construction of numerous wells, concrete water tanks and public wash houses, and the draining of swamps and other standing water.[42] By 1913, a reporting protocol had been established to monitor water supply provision, giving detail on work in each administrative region, although the Northern Territories were not included in any similar assessment.[43]

The Accra waterworks began operation in 1914, and the site for a waterworks at Kumasi was selected in the same year.[44] Although many large-scale plans were held up during the First World War, the installation of wells and sealed tanks continued in smaller towns in the south, and there was an expansion of piped water to African communities in the gold mining areas.[45] In 1917 the installation of piped water was completed at Sekondi, and by 1920 water works were planned for Koforidua and Axim, in addition to the plants already under construction at Kumasi, Cape Coast, Winneba and Saltpond; it was also recommended that enclosed water carriage and sewage systems be installed in all the coastal towns.[46] Surveys for the railway network linking

40 See, for example, 1911 MDAR, 55.
41 Ibid., 66.
42 1912 MDAR, 104, ‘Water Supply’.
43 See, for example, 1913 MDAR, 48, ‘Water Supply’.
44 Ibid., 21.
45 1915 MDAR, 17; 1916 MDAR, 14.
46 1917 MDAR, 19; 1920 MDAR, 23.

Kumasi to the coast had begun by 1923, along with proposals to extend piped water supplies out from urban centres to nearby villages. The administration had already completed a waterworks at Winneba, and had begun overhauling Accra's existing piped supply to allow further expansion.[47] The mid-1920s saw a further sustained expansion of drinking water supplies in the south, including a scheme to improve private wells through construction of concrete casings, and the extension of piped water in mining areas inland.[48] Piped water began flowing at Cape Coast in 1927, by which time a system of chlorinated wells had been installed at Kumasi, ahead of its piped supply.[49] The construction of waterworks began at Kumasi and Koforidua in 1928, and civil engineering projects were commenced to remove expansive bodies of standing water (a major source of guinea worm infection) in both the south and Ashanti.[50] These projects included the partial draining and concrete walling of the Korle Lagoon at Accra, and the filling in of the Ejisu, New Asafu and Brobo Valley wetlands close to Kumasi.[51]

The effects of water improvement on guinea worm disease

These details – by no means a comprehensive account – are recounted to show the pace and extent of water supply improvements in Ashanti and the Colony before 1930. Piped water was installed in the major coastal settlements, and then extended into surrounding villages. In large towns where piped water had not been installed by 1930, chlorination was often used as an alternative, and concrete lined wells were installed at large and small settlements across the southern Gold Coast. Engineering projects aimed at reducing disease transmission, and at reclaiming ground

47 1921 MDAR, 10; 1922 MDAR, 10, 49; 1923-1924 MDAR, 15.
48 1924-1925 MDAR, 17.
49 1927-1928 MDAR, 28, 33.
50 1928 MDAR, 31.
51 1929 MDAR, 23.

for roads, railways and construction, drained extensive wetlands that had previously been a focus of guinea worm disease.

Many of these improvements were not directed specifically at guinea worm, and on several occasions they were driven by outbreaks of diseases more feared by Europeans. In 1910, referring to an epidemic which affected a number of southern towns, the annual medical report noted that 'the unfortunate outbreak of yellow fever was not without some good results – money was voted and drinking water sources protected on a scale that would not otherwise have been possible'.[52] Similarly, in regard to the provision of chlorinated water supplies in some native areas of Kumasi, a report in 1924 observed that the decision 'received its initial impetus from the outbreak of plague'.[53]

Nevertheless, the expansion of drinking water supplies had a significant effect on the prevalence of guinea worm in the south. Even simple improvements intended to reduce mosquito breeding (for example the sealing of tanks), which did not render water free from dysentery or other microbial disease risks, appear to have been effective in excluding copepods and breaking the transmission of guinea worm. The results were very clear. In 1914, the year that the first public water standpipes were made available in Accra, the medical report recorded that:

> A very interesting fact has come to light about Guinea worm among prison warders who reside altogether in Accra. The disease was very prevalent amongst them before the inauguration of the water supply, but since then it has almost disappeared. It also appears to be diminishing in the "blue" policemen stationed in Accra, but still occurs frequently in the "escort" policeman, who are continually leaving headquarters on duty.[54]

52 1910 MDAR, 54.
53 Ibid., 22.
54 1914 MDAR, 12.

The number of treated cases in Accra fell by 67 percent between 1914 and 1915, and fell to 30 times lower in the following four years.[55] There were only four cases recorded at the town's native hospitals in 1918, and it was noted that 'the progressive decline in the incidence of the disease is an obvious result of the introduction of the pipe-borne water supply'.[56] Although this decline was most noticeable in Accra, where piped water was first installed, improved drinking water provision meant that fewer people became infected in many southern settlements. Between 1914 and 1915 the medical department recorded that 'general improvement in water supplies has had a marked effect in some places in checking the ravages of dracunculosis'.[57] The Gold Coast's total number of treated cases dropped by 50 percent, with falls of 82 percent in Winneba and 47 percent in Ashanti (part of the decline in Ashanti was attributed to the departure of encamped troops, mostly northerners, during the war).[58]

This rapid reduction in guinea worm was most clearly linked to the provision of clean drinking water, but education and the increasing affluence of some African subjects also played a part. By 1913 the administration had included lessons on the guinea worm disease in the hygiene curriculum taught at government schools, teaching that infection could be prevented by cloth filtration or boiling drinking water – another indication of colonial concern with the disease's social and economic impacts.[59] This educational programme appears to have been effective for those elites who had access to schooling. Reports observed that the southern colony's 'better class of inhabitants' had begun regular use of cloth filtration – the measure which Moran-Thomas

55 See the full record of 'health achievements' for 1915 in 1933-1934 MDAR, 5.
56 1914 MDAR, 7.
57 Ibid., 40.
58 1915 MDAR, 9.
59 1913 MDAR, 83, Appendix 4, 'On the Teaching of Hygiene in the Schools'.

considered a new technological 'magic bullet' for the northern Guinea Worm Eradication Program in 2008 – and that this had contributed to a decline in cases.[60]

Large-scale provision of clean drinking water and piped supplies advanced unevenly across colonial Africa. The headquarters town of Buea in German Cameroon, for example, had installed piped water as early as 1903, supplying this to urban African subjects, while the populous Benin City in Nigeria only installed piped water in the late 1930s.[61] The southern Gold Coast developed clean urban water supplies relatively early, driven both by a general trend towards improvement, in part to appease expatriate Europeans in light of changing water standards in Europe, and by a concern to address diseases that were seen as a burden on the colonial economy. The stark decline in guinea worm cases did not mean that the disease was eliminated in the south, except perhaps in some urban centres were most drinking and washing water was piped by 1930. But its prevalence was greatly reduced, along with the economic and social burden which a debilitating disease places upon an affected population. From the early 1920s, guinea worm simply disappeared from the main section of the annual medical reports for a number of years.

Part 2. Advocacy, misplaced actions and stasis: guinea worm in the north before independence

Guinea Worm in the north before 1930

In the successive reports that hailed the expansion of drinking water in the south, a common theme emerged in the reporting of guinea worm. The disease was increasingly seen as an affliction of people from the north, whose increasing presence

60 1914 MDAR, 40, 'Report: Guinea Worm'.

61 Charisma Acey, 'Forbidden Waters: Colonial Intervention and the Evolution of Water Supply in Benin City, Nigeria', *Water History* 4, no. 3 (2012): 215–29; Ben Page, 'The History of Water Politics and the Politics of Water History: Cameroon' (Unpublished Paper, 2012), http://www.geog.ucl.ac.uk/people/academic-staff/ben-page/files/AfricanWaterHistories.pdf.

as migrant labourers, harbouring 'imported cases', confounded attempts to gain a sense of southern disease conditions: ‘Its true endemic distribution is not fully known, as many cases occur in persons who have acquired the parasite in the northern territories, and it may be months before its appearance at the sore on the patient's body’.[62] The Accra government's concern with the problem of imported guinea worm disease was part of a deepening conception of the north as a zone of disease, from which the people and water supplies of 'the more important centres' of the colony needed protecting – the region was also seen as a source of yaws and bilharzia, and later of sleeping sickness.[63] ‘Imported cases' became a term which connoted more than just a carrier of disease, and was often used in reports which made broader criticisms of northern vagrancy and poverty and their impact on southern labour centres.[64] The unusual persistence of guinea worm as a disease affecting prisoners in southern jails may have been because many of those imprisoned were from the north. This is speculative, but not without some foundation. In 1948, a survey found that more than half of all beggars in Sekondi-Takoradi were destitute northerners, a condition which may have brought many into the penal system.[65]

Observations about imported cases indicated the state of guinea worm disease in the north itself. From 1904 onwards it was known that the disease posed a serious public health problem in the region and a burden on the economy. Guinea worm was among the principal diseases for which northerners applied for treatment at government facilities, and the 1907 report by Graham, which considered that guinea worm caused ‘a larger annual loss to Government than all other native diseases in the aggregate’, had

62 1921 MDAR, 18.
63 1919 MDAR, 16; 1936-1937 MDAR, 25.
64 See, for example, 1923-1924 MDAR, 12; 1924-1925 MDAR, 21; 1932-1933 MDAR, 9; 1937-1938 MDAR, 25.
65 1936-1937 MDAR, 3; and K.A. Busia (1950), ‘Report on a Social Survey of Sekondi-Takoradi’, (London: Crown Agents, 1950), quoted in Destombes, ‘Long-Term Patterns of Seasonal Hunger’, 42.

partly been based on his observations of infection at Gambaga.[66] By 1923, as the disease declined in the south, the annual medical report concluded that 'Guinea Worm prevails mostly in the Northern Territories of the Gold Coast, or in persons who have come from these Territories'.[67]

This became a standard, almost annual observation for the rest of the colonial period. From 1910 to 1930, drinking water provision had advanced rapidly in the Colony and Ashanti, and the dangers of guinea worm as a social problem or cause of lost revenues had been greatly reduced. But there had been almost no similar water supply developments further north over the same period. The northern administration had to some extent handed off attempted control of the disease to local chiefs, simply requiring them to make sure that 'guinea-worm patients must not go to the water place'.[68] The intense focus and spending on southern water systems drew expertise and attention away from more basic expansion of clean water and wells elsewhere, and the north did not experience outbreaks of the internationally 'notifiable' diseases – yellow fever and plague – which had given an impetus to water provision outside the urban centres. Government education remained extremely limited in the protectorate, and there appears to have been no teaching of methods for preventing the disease.

The worm remained a serious burden on northern communities, part of a growing divergence in the health prospects of the two regions, and before the mid-1920s northern officials attempted little advocacy regarding either guinea worm or clean water. The north had been an unpopular posting from its induction into the Gold Coast, and in the early decades it attracted few motivated medical or political officers.

66 1903-1904 MDAR, 19, 'Health Rpt on the Northern Territories'; 1904 MDAR, 12; 1907 NTAR, 21; 1907 MDAR, 25–27, Appendix: Report on Guinea Worm; 1925-1926 NTAR, 11; 1926-1927 NTAR, 19.

67 1923-1924 MDAR, 61.

68 PP 1922 [Cmd.1698] *Report on the British mandated sphere of Togoland for 1920-1921 together with a despatch from the Governor of the Gold Coast*, 31, 'Duties and Rights of Chiefs'.

As one assessment in 1902 recorded, ‘Officers leaving the Northern Territories are for the most part greatly run down. There is no doubt about the effect of a lonely life at an out-station... the temper and the temperament of the subject suffers in an unmistakable manner’.[69] However, from the mid-1920, faced with an increasingly serious health situation, some officials did become advocates for improvements in the north, and guinea worm figured prominently in their criticism of the region's neglect by Accra.

A period of advocacy – 1925-1940

While the provision of clean drinking water had been accomplished in many larger settlements in the south, little similar work had been done even in Tamale, the regional headquarters and largest urban centre of the north. In 1909, when plans for southern water provision were being developed, the government had sent an expert to assess the state of water supplies in the protectorate. But almost nothing happened from 1910 to the mid-1920s, during the south's drinking water boom. In 1921 it was observed that although there was a policy to gradually provide safe wells in villages across the protectorate, 'a few wells only have been dug'.[70] In 1925, efforts remained focused on the improvement of drinking at the administration's headquarters in Tamale, while it was planned that in coming years, water-related expenditures would be directed at the installation of wells on the main trade route linking the south with French Upper Volta, a policy unlikely to improve the guinea worm situation elsewhere in the protectorate, and another example of the ancillary situation of the north in relation to southern economic interests.[71] Little funding was available to build sealed wells or

69 1902 MDAR, 33, ’Report on health in the Northern Territories’.
70 1921 NTAR, 10.
71 1925-1926 NTAR, 22.

tanks for use by northern communities, and problems with water supply were often blamed on population expansion rather than administrative inaction.[72]

As the 1920s progressed and the south's water situation improved, however, a number of political and medical officers began to raise insistent complaints about the this disparate development, noting the relationship between Northern Territories water and diseases including guinea worm. The Chief Medical Officer reported in 1926 that 'there can be no doubt that the unsatisfactory and highly contaminated sources of water supply in many localities, more especially in the Northern Territories, constitutes a cause of the high incidence of diseases in the Gold Coast'.[73] Another section of the same report, concerned with guinea worm, observed that 'the position as regards water supplies, more especially in the Northern Territories, is far from satisfactory, and money spent on the improvement and protection of public water supplies would undoubtedly result in a general improvement of health conditions'.[74]

72 1928-1929 NTAR, 10.
73 1926-27 MDAR, 23.
74 Ibid., 26, 'Dracontiasis'.

The same complaints were made the following year, when the medical report noted that 'the want of good water supplies in the Northern Territories ... is a very serious handicap to the health of the inhabitants of these areas'.[75] Local protectorate officers complained that the drinking water in their districts was unfit for human consumption, or 'can only be compared to liquid mud'.[76] In 1934, protectorate officials observed that 'everywhere the villages are crying out for improved water supplies', while the 1935 report argued that clean drinking water remained 'the most pressing need of the people'.[77] The northern administration was aware that its water advocacy was hindered by the region's political and economic peripherality, 'an isolation which is inevitable, so long as the Protectorate is separated from the seat of Government by so valuable a crop as cocoa'.[78]

Intensified advocacy continued into the 1930s, with successive reports continuing to observe that 'much hardship results' or 'much hardship is experienced owing to shortage of potable water in many areas in the Northern Territories'.[79] It was argued that 'the debilitating effects of disease and lack of satisfactory water supplies result in an inability to farm extensively'.[80] In 1937, a decade after northern officers and the Gold Coast medical department had begun to increase pressure on Accra for drinking water expansion in the north, the medical department insisted that 'undoubtedly the most pressing need, generally, in the Northern Territories is an adequate supply of pure water. When provided the benefit to the public health will be incalculable'.[81] The following year it similarly argued that 'a supply of adequate water

75 1928 MDAR, 14.
76 1929-1930 NTAR, 4, Report from Medical Officer, Bawku District; 1931-1932 NTAR, 3, Chief Commissioner's Report.
77 1935-1936 NTAR, 59.
78 1937-1938 NTAR, 38.
79 1934-1935 MDAR, 3; 1935-1936 MDAR, 61, 'Water Supplies'.
80 1934-1935 MDAR, 4, 'Factors Affecting Public Health'.
81 1937-1938 MDAR, 37, 'Water Supplies'.

for [Northern Territories settlements] will mean a revolutionary improvement of a thrifty and industrious population'.[82]

At the end of the 1930s this sustained advocacy finally appeared to be bringing results. A large-scale survey of the north had been commissioned, which compelled the Accra government to admit the extent of health and economic problems stemming from insufficient clean water, resulting in recommendations for the establishment of a dedicated Water Supply Section. The tone of northern officials became recriminative:

> To all with a knowledge of the country it was obvious that until the serious shortage of water was remedied there could be little economic development and no improvement in the social and health conditions of the people. They realised that little benefit could accrue to them from hospitals and dispensaries, from the schemes for the development of the cattle industry and the introduction of mixed farming unless adequate supplies were provided for both man and beast ... It is no exaggeration to say that the establishment of the Water Supply Section marks the beginning of a new era in the history of the Protectorate. The health of the people has suffered and the economic development of the territory has been retarded by the lack of water supplies.[83]

As discussed in Chapter 2, the period from 1925-1938 was an unusually intense period of advocacy on the part of some medical officers and northern officials. Arguments for the provision of clean drinking water were evidently related to a range of public health problems, and not just guinea worm. At one point, the cause was helped by the intervention of non-government health workers, posted in the north on behalf of the British Empire Leprosy Relief Administration. BELRA's privately-funded health workers raised a number of complaints about the provision of clean water across the region, arguing that this was responsible for the spread of diseases co-infective with leprosy. Their complaints met with a swift response, at least in the case of their own facilities: a pump and filtration system was ordered and sent north by the Accra

82 1938-1939 MDAR, 27, Subsection D: 'Water Supplies'.
83 1937-1938 NTAR, 82, 'Water Supplies'.

government.[84] As with the British Empire Society for the Blind and onchocerciasis two decades later, this was an example of the way that a non-governmental organisation, with influence in the metropole, could exert a pressure for change that was beyond the political reach of local officials.

The criticism of government inaction on drinking water provision also reflected an early turn (on the part of some officials) towards the 'developmental' colonialism often associated with the post-war years. Calls for northern water improvements were sometimes couched in this language: ‘The improvement of public health is not merely a problem of treating diseases, but is bound up with the whole problem of raising the standard of living all round’.[85] From the outset of this period of advocacy, guinea worm was consistently cited as a disease of central concern. Calls for the extension of drinking water supply were most often contained in subsections of the annual reports dealing with the disease:

> In the major portion of cases of guinea worm the infection was acquired owing to the poor quality of water supplies in many areas. The Medical Officer, Zuarungu, stated in his Annual Report that [10 percent] of all the patients he treated were cases of guinea worm infection. Preventive measures consist in the improvement of water supplies … The position as regards water supplies, more especially in the Northern Territories is far from satisfactory.[86]

> [Guinea worm] is an important disease from the standpoint of labour efficiency – it is chiefly met with in the Northern Territories … In these areas the water supply is of extremely poor quality.[87]
> Guinea-worm still remains a disabling factor of great importance in the Northern Territories where water supplies are usually inadequate as regards quantity and are polluted.[88]

84 1927-1928 MDAR, 83 Appendix D: ‘Report on the Leper Settlement’; 1928 MDAR, 127, Appendix E: ’Report on Leprosy by the Medical Secretary to the Gold Coast Branch of the British Empire Leprosy Relief Association, Navrongo, NTs’; 1929 MDAR, 191 Appendix C: ‘Report on the Leper Settlement’.
85 1929 MDAR, 10.
86 1926-27 MDAR, 27, ‘Dracontiasis’.
87 1929 MDAR, 14, ‘Dracontiasis’.
88 1933-1934 MDAR, 10.

> To recount the other diseases existing in the Protectorate would be unduly to burden this report with details which can be found elsewhere. Mention must, however, be made of the prevalence of helminthic diseases, the commonest being guinea-worm which if it develops in the legs, as it generally does, incapacitates the victims for work … Improved water supplies and sanitation will alone remedy the situation permanently.[89]

The socioeconomic effect of the disease on northern communities were consistently recognised. It was known that 'in certain areas, particularly in the Northern Territories, infestation is so common as to be almost universal. In the areas where it is rife it is a potent cause of labour inefficiency'.[90] Couching their advocacy in economic terms (a method which had been successful in prompting the expansion of clean water in the south) medical officers argued that 'the infestation is very rarely seen in the larger centres except in the form of an imported case. It is however very common in the NTs … it is one of the most important factors when labour efficiency is considered'.[91] Seen as 'exceedingly common', guinea worm was shown to cause 'prolonged disablement', and came to be seen as the principal 'disabling disease' in many parts of the Northern Territories.[92] Perhaps aware of the disparate attention paid to 'killing diseases' and death tolls by the political administration, in addition to diseases it considered of economic importance, the Medical Department insisted that the annual disease returns for guinea worm (which rarely showed any deaths), 'give no real indication of the vast amount of invalidism caused'.[93]

Drinking water in the north

Advocacy was carried out both by medical and political officers in the north, and by officials in the headquarters of the Gold Coast Medical Department. One of its

89 1937-1938 NTAR, 78.
90 1928 MDAR, 27, 'Dracontiasis'.
91 1933-1934 MDAR, 28, 'Dracunculiasis'.
92 1931-1932 MDAR, 24, 'Dracontiasis'; 1929 MDAR, 14.
93 1931-1932 MDAR, 9.

first results was the acceleration of a plan to install a piped water system in Tamale, previously not included in recommendations for future work. Construction of the system began in 1930, at the same time as work on the long-planned Kumasi waterworks (the town had previously installed a system of chlorinated wells and encased springs), and was opened in March 1932, a year ahead of Kumasi.[94] The Medical Department listed this as the 'outstanding event of the year' in its report on guinea worm, anticipating that 'this very much needed improvement will have a far reaching effect upon public health in Tamale'.[95]

Advocacy continued through the 1930s, as did problems in the northern water supply. It became clear that the waterworks rapidly constructed at Tamale was not built to the same standard as those further south, and was unable to treat enough water to supply the African and European populations of the town. The lengthy reports of water quality assessments from the Accra Laboratory record no attempts to test the purity of treated Tamale water, although southern urban centres were annually tested.[96] In 1940, the use of piped water was Tamale was restricted by order of the administration, and by 1950 Europeans visiting the city were advised to boil their water ‘owing to an interrupted supply’.[97] Although its functions were impaired, the waterworks at Tamale was used to impress northern chiefs who travelled to the Protectorate's headquarters – the Chief of Sandema was reported to have said ‘This is wonderful, and now I see what the white man has done for the country. I should like one myself but fear that I shall never have one’.[98] The waterworks operated successfully for only a short period, however, before falling into disrepair.

94 1930-31 MDAR, 35, Subsection D: ‘Water Supplies’.
95 1931-1932 MDAR, 24, ‘Dracontiasis’, and 27, ‘Water Supplies’.
96 See, for example, this laboratory report, the year after the Tamale waterworks opened. 1933-1934 MDAR, 35.
97 1940 MDAR, 6; NRG/8/13/4 (1945-55), Enc.34: Chief Medical Officer of Health, NTs, to Chief Commissioner, Tamale, 12 April 1950.
98 1935-1936 MDAR, 30.

Northern officials and some medical officers continued to raise criticisms of Accra for failing to fund clean water supplies. But during the mid-1930s, some of the most rapid advances were made locally, when the newly-created Native Authorities were empowered to raise taxes for spending on local projects. In 1934 alone, thirty new concreted wells were dug with Native Authority funding. This opened a new line of criticism from local officers, who could compare Native Authority action with neglect from Accra:

> The villages are crying out for improved water supplies and the Native Administration is showing a commendable desire to answer appeals, even where the village concerned is far from its headquarters. This statement is equally true of other NAs ... it is to be hoped that the endeavours of the people to help themselves will be rewarded by the grant of generous assistance either by the central government or from the Colonial Development Fund.[99]

In 1935, the Dagomba and Mamprusi Native Authorities allocated £600 to employ a European engineer with the brief of expanding drinking water supplies in their areas, prompting a district officer to report that 'the progress made by the Dagombas has enabled them to obtain benefits which they would probably never have received if they had waited on Government generosity'.[100] Perhaps goaded by this local activity, from 1936 the Accra government devoted more attention to developing clean water supplies in rural districts away from Tamale. A Northern Territories Water Supply Party was created to survey the north in advance of making improvements, and local Native Authorities voted more than £1,700 to support the survey. Northern officials hailed 'the rather belated realization that from health point of view, as well as that of development of the country, the first and most important step is improvement of water supplies'.[101]

99 1934-1935 NTAR, 96–97.
100 1935-1936 NTAR, 30.
101 Ibid., 57.

The Accra government's approval of the survey marked its first action towards a comprehensive solution for the north's water problems and related diseases. Once the survey was scheduled, however, local 'amateur' projects for improving water supply (run by Native Authorities or district administrators) were prohibited, as a way of restricting wasteful expenditure ahead of what was anticipated to be a comprehensive central solution.[102] This had a similar effect to restrictions on the expansion of Native Authorities dispensaries (see Chapters 1 and 3), which stalled the development of what had been a successful local measure. 'When the Water Supply Department starts serious activities in 1937-38, it is hoped that rapid advances will be made', read the Northern Territories report in 1936, after the government's completed survey had accepted the severity of poor health caused by inadequate drinking water provision.[103] The newly created Water Supply Department's plans were ambitious, and indicated the scale of the potable water problem which underpinned the high prevalence of guinea worm – the survey had concluded that in order to provide basic access to clean water it would be necessary to build 2,167 sealed wells and 28 large dams across the region. In areas where wells or dams were geologically impossible, or for small villages, it proposed building traditional *biliga* underground water tanks, used elsewhere in West Africa.[104]

Some problems became apparent immediately. The Gold Coast Medical Department was not kept informed about about the Water Supply Department's ongoing work, and the department's plans were constrained by a reluctance to allocate funds in Accra.[105] Having secured a survey and the subsequent creation of a water supply department, local health officials now argued that the government should develop a

102 1936-1937 NTAR, 95.
103 1935-1936 NTAR, 96–97.
104 1937-1938 NTAR, 82.
105 1936-1937 MDAR, 28; 1938-1939 MDAR, 27, 'Water Supplies'.

third scheme ‘for the provision of funds for water supplies in the Northern Territories’.[106] But by 1941 these plans were overtaken by world events, and construction stalled during the war: ‘In the Northern Territories the Geological Survey Water section continues its activities under difficulties. Materials, at present, are difficult to obtain, and any material advance will have to wait for the cessation of the present hostilities’.[107]

The work of the north's Water Supply Department, which had offered the best possibility of reducing the impacts of guinea worm disease on northern people, ground to a halt for almost a decade from the early 1940s. Two separate water supply projects continued, but in relation to guinea worm disease these alternative programmes may have increased the severity of the problem in the north. Instead of concreted wells, each initiative concentrated on the building of small stillwater impoundments, potentially increasing the number of breeding sites for guinea worm larvae and their host copepods. First there was the work of the Tsetse Control Department from the late 1930s to the early 1950s, as discussed in Chapter 2. Although the department's work began in response to an epidemic of sleeping sickness, and the search for a means to contain it, its remit became substantially broader. The department worked both to eliminate the tsetse fly from river valleys through the mass clearing of riverine bush, and then to attract northern people to move into these areas, settle, and begin mixed agriculture. As part of this plan it built a succession of small dams along the river and stream systems it cleared. These dams were later implicated in the onchocerciasis epidemic, which became an international scandal at independence – each dam created a well-oxygenated spillway, in which the blackfly that transmits onchocerciasis can breed. Although no formal assessment was made, because the disease attracted little

106 1937-1938 MDAR, 37.
107 1941 MDAR, 6, ‘Water Supplies’; 1943 MDAR, 6.

attention in the north until the end of the colonial era, the effects of dam-building on guinea worm disease may have been equally serious. The department had unintentionally created a network of new copepod habitats in areas where infection had previously been less likely (the copepod cannot live in running water, and people who had previously obtained their drinking water from streams were not exposed to infection). When northern guinea worm eventually became the focus of a dedicated control programme, several decades after independence, the high number of small dams in the north was shown to be a central factor in its prevalence, although researchers in the 1980s were unaware that much of this dam building took place during a public health campaign of the colonial era.[108]

The Tsetse Control Department's programme was seen a way to realise the Accra administration's economic and developmental ambitions for the north, while helping to addressing a water supply crisis that had drawn complaints from local officials. Another group based within the Department of Agriculture was also engaged in the mass building of dams in the protectorate, as part of a policy to promote mixed agriculture. As Grischow and Weiss have discussed, this policy emerged from the work of the colonial agriculturalist Charles Lynn, who conducted research across the north from 1932 to 1937. Intent on addressing the region's nutritional crisis, Lynn proposed a system of mixed farming accompanied by the introduction of bullock ploughing, and the construction of multiple small ponds for irrigation.[109] His proposals became Agricultural Department policy in 1940, driving a further expansion in the number of guinea worm transmission sites across the region.

108 For discussion of the Anti-Tsetse Department's dam building, see Chapter 3. For data on the north's small dams and guinea worm prevalence see Cairncross, Muller, and Zagaria, 'Dracunculiasis', 229.
109 Grischow and Weiss, 'Colonial Famine Relief', 80–85.

In the context of sustained criticism regarding the provision of drinking water supplies, and with additional ambitions for boosting agricultural production, the colonial government appears to have selected dam building as its method of choice for water expansion. As discussed in the chapter on onchocerciasis, this dam building proceeded without significant medical department supervision or consideration of its broader health impacts. Both Lynn and the Anti-Tsetse Department reported directly to the Department of Agriculture. In the case of the anti-tsetse programme, even local medical and political officers were often unaware of the extent of the department's work in remote areas. Although one or two local officials (notably B.B. Waddy) made a late connection between dam building and increased onchocerciasis, the risks of increased guinea worm were not identified by any of those aware of the work. During the war, general responsibility and oversight of water safety was removed from the Gold Coast Medical Department, and this remained the case after the war. As the medical department reported, it could only be involved if a department actively sought its advice:

> It is now a matter of considerable difficulty commenting in detail on such matters as labour conditions ... and water supplies, when these activities are the proper functions of other Departments and Boards. In so far as this Department is concerned [regarding water supplies], progress has been slow. [110]

The region's distance from the economic centre, and its lack of a political voice at Accra, meant that the problem of northern guinea worm had been a subject of concern only to the small number of officials who made it part of their advocacy efforts. The most vocal among these were officers of the Gold Coast Medical Department, both in the north and Accra. With supervision of drinking water supplies

110 1946 MDAR, 10, 'Hygiene and Sanitation'.

removed from their oversight, this strand of advocacy subsided until shortly before independence.

Funding levels and expenditures on the north increased at the end of the 1940s. The Northern Territories Water Supply Department resumed some of its schemes for building enclosed wells which (unlike dams) reduced rather than increased the risk of guinea worm disease. Four hundred and forty wells had been sunk by 1949, and the government proposed the construction of a piped water supply for the heavily populated area around Bolgatanga.[111] But this work was also overtaken by events, as it became clear that decolonisation was imminent. In the years leading up to independence many projects were shelved, including the extension of the northern water supply. In one of its final criticisms before it was dissolved, the north's colonial administration wrote to the government at Accra, noting that local taxation would be unable to fund drinking water provision: 'In the foreseeable future, Local Authorities with the utmost help that Government Agents can give, will not be able to provide sanitary works on the scale which your own representatives have indicated are essential for the maintenance of a decent standard of health in this region'.[112]

As plans were formulated for the long-term development of public health in an independent Ghana, it became clear that responsibility for monitoring and control of diseases like guinea worm, in the peripheral north, would pass almost entirely to the recently created Medical Field Units.[113] As discussed in Chapter 3, the mobile MFUs became the front line of public health work in the region, in part because they cost far less to operate than conventional facilities. The various mission clinics of the north

111 1948 MDAR, 15, 'Hygiene and Sanitation'.
112 NRG/8/13/4 (1945-55), Enc.37: 'General Sanitary Improvements', CRO Tamale to DMS, Accra, 16 August 1952.
113 NRG/8/13/11 (1949-57), Enc.7: Report from R.S. Cheverton-'Observations on the Medical Department following a tour in the Gold Coast and Neighbouring French Territories Between November 1949 and April 1950', 48-49.

were seen as another line of state-supported medical provision against the disease.[114] By this time mission clinics were already providing treatment for guinea worm, and working to improve local water supplies, activities which must have helped to reinforce their broader influence. In the 1950s the government also arranged for mobile cinema vans to tour the north, showing films on preventing infection by guinea worm and other water-borne diseases.[115] The value of educational interventions in limiting the disease had already been demonstrated in the south, where mass education on guinea worm prevention had been provided forty years earlier.

Despite the evident reach and efficiency of the MFUs, their mode of operation meant that there was little they could achieve against a disease like guinea worm, apart from reactively treating affected people whom they encountered on visits to northern villages. Control of the disease depended on provision of safe drinking water supplies, and this had not been achieved by the end of colonial rule. Instead, in the 1950s there was a renewed insistence that water improvements should be funded from local revenues.[116] The sanitation initiatives set in motion by the advocacy of some officers, from 1925 to 1938, had subsided by 1950. In the final years of colonial rule, the principal health focus of government (at least for the north) turned rapidly to the newly recognised onchocerciasis crisis, promoted by advocacy from another quarter: the influential British Empire Society for the Blind.

Guinea worm was recognised by the new Ministry of Health as a serious problem which limited the economic potential of northern Ghana, a disease which

114 Ibid., Enc.7: Report from R.S. Cheverton-'Observations on the Medical Department following a tour in the Gold Coast and Neighbouring French Territories Between November 1949 and April 1950', 27-35.

115 NRG/8/13/4 (1945-55), Enc.46: 'Health Campaign', Director of Information Services, Accra to CRO, Tamale, 5 July 1954.

116 NRG/8/7/9 (1949-1951), Enc.2: 'Ten Year Plan for Hospital, Health and Nutrition Services', undated (1949).

caused 'great economic hardship' to the region's peoples.[117] The same phrases had been used year after year by those medical officers aware of the extent to which guinea worm caused disability and lost production to northern communities. But the disease had been brought under control in the coastal cities and mining areas decades earlier, and this had reduced pressure for further action. In 1953 the government carried out a survey of guinea worm infection. This reflected the new attention given to diseases affecting African populations across the Gold Coast, and perhaps also the particular interests of the first Ghanaian Minister of Health, Imoru Egala, one of few northerners in the CPP government. The survey found that over a fifth of the population was infected in some northern village clusters, and observed that the limited well building programme of the late 1940s had failed to stop the disease. In some cases wells had been sunk into undrinkable salt water, while others had fallen into disuse when people could not obtain parts to keep them working.[118] In 1955, when the population of the north was estimated at a little under one million people, the Ministry of Health reported that:

> Guinea worm is perhaps the most crippling of all the endemic diseases on the Gold Coast. Full recovery from a single guinea worm near the ankle or knee may take up to four years, and the eruption of symptoms causes 100 percent disability for months. In the Northern Territories it is estimated that some 10,000 adults are completely disabled throughout each farming season, and some 90,000 partly disabled. The total loss to the Gold Coast's labour effort is enormous.[119]

117 1953 MDAR, 22; 1954 MDAR, 55.
118 1953 MDAR, 9, 'Guinea Worm'.
119 Ibid.

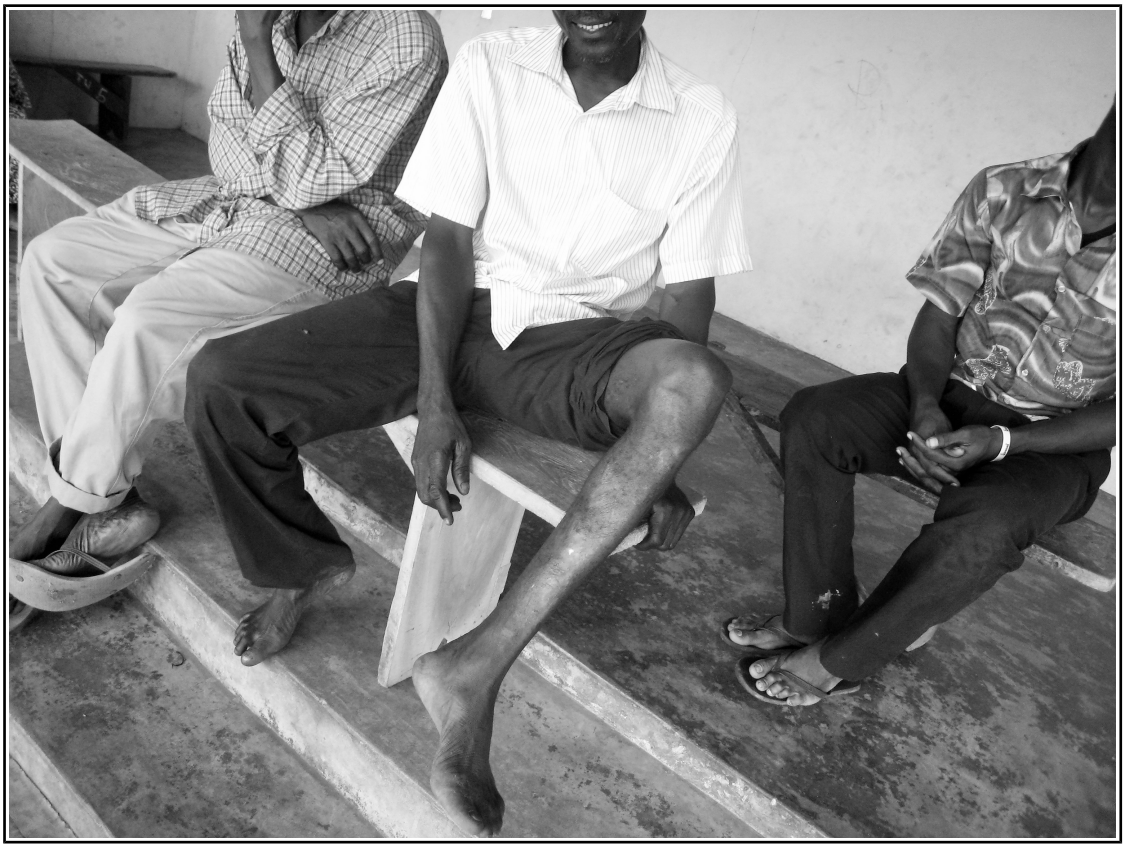

Figure 30. A man shows scars from repeated guinea worm infections. Northern Ghana, July 2015. Source: author

Part 3. The eradication of guinea worm in northern Ghana, 1980-2010

From a historian's perspective, the postcolonial history of guinea worm is striking in that little data is available for the disease, for the north as a whole, between 1957 and the late 1970s. The problem remained prevalent, although there is almost no accurate documentation for the period between 1966 and 1983, as with other aspects of Ghana's public health. In community interviews, however, many individuals showed multiple scars where they had suffered single or repeated guinea worm infection, and would often be able to date each scar within a particular period ('Nkrumah's time', for example, or to more recent decades). The pain and duration of guinea worm disease mean that it is not easily forgotten. The interviews suggest a persistently high rate of infection in many parts of the north from the late colonial period into the 1980s: when asked about which diseases had posed the most serious problem over the lifetime of participants, guinea worm and measles were more consistently cited than any others.[120] The long persistence of infection is also confirmed in interviews with retired northern health officials, who observed that guinea worm was 'everywhere', or that their own friends and relatives would be infected by the disease almost every year.[121]

Chapter 4 discussed the problems in Ghana's health system during the period of economic decline in the 1960s, and the failure to maintain public health systems in the north from 1966 to 1983. This suggests why guinea worm, principally a problem of the north and of some rural areas in the south, lay beyond the capacity and the inclination of the state health service for several decades, even though local officials

120 See all community interviews, and for example Group.01: Bongo Village (Guruni), Interview 27 July 2015; Group.05: Yorogo Village (Guruni), Interview 28 July 2015; Group.08: Dulugu Village (Guruni), Interview 29 July 2015; Group.10: Muriwie Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.11: Naachenyiri Village, Jirapa Area (Dagaare), Interview 7 August 2015; Group.16: Dagomba Community 1, Tamale Area, Interview 10 August 2015; Group.17: Dagomba Community 2, Tamale Area, Interview 10 August 2015.

121 Dr Von Asigri, Interview, Tamale, 30 June 2015; Dr Sam Bugri, Interview, Tamale, 30 June 2015.

continued to raise concerns about the disease. As the chapter also notes, this was the period when international bodies, most centrally the WHO, assumed an increasing share of authority and responsibility in the oversight of northern public health. Here again, however, guinea worm remained a neglected problem. The WHO operated local programmes for bilharzia and tuberculosis control in the north over this period, in addition to the global Smallpox Eradication Programme and the regional Onchocerciasis Control Programme.[122] As noted in Chapter 3, onchocerciasis control drew in extensive local resources, and focused available health personnel on the surveillance and treatment of river systems and running water, rather than village ponds.

Dr Bugri and guinea worm

The last section of this chapter moves forward several decades, to the years immediately preceding the Guinea Worm Eradication Program (GWEP) of the 1980s. Before discussing the programme itself, I turn briefly to the role played by one individual in the history of guinea worm control in northern Ghana. Born in 1943 in Bawku, in the north-east corner of Ghana, Dr Zanya 'Sam' Bugri's early career reflects the international public health linkages which tied Ghana to both the west and the eastern bloc in its early independence period. A member of the small northern educated elite, he attended Achimota College in Accra on a scholarship arranged by a local British official, followed by the University of Ghana, and he subsequently represented Ghana in the 400 meters event at the 1968 Mexico City Olympics. In the early 1970s he studied medicine in the former Yugoslavia, and was later awarded a scholarship to study a Masters in Public Health in Tehran. This was cancelled on the overthrow of the

122 WHO/CPD67.4 (1968), 1–22.

Shah in 1979, and Bugri eventually completed a public health degree through the London School of Hygiene and Tropical Medicine.[123]

Bugri proposed and carried out a study of guinea worm disease for his masters research, after he became aware that Ghana's national health system had ceased to maintain any statistics on levels of infection. He visited villages across the Northern Region, developing a methodology which allowed him to estimate the prevalence of guinea worm disease in the north as a whole, and sent his findings to health authorities in Accra.[124] In 1981, the United Nations designated the coming ten years as 'The International Drinking Water Decade', and UN agencies including the WHO began various programmes connected with this theme – one of the sub-goals was the eradication of guinea worm, now recognised as serious a problem in much of Africa and south Asia. This coincided with the overthrow of the Limann administration and accession of the second Rawlings government. Rawlings linked himself to the publicity surrounding the International Water Decade, and to early discussions about a global guinea worm eradication programme, perhaps as one way to bolster the legitimacy of his new regime. Based in Tamale at this point, Bugri received a call saying that the new president wanted to see a village with guinea worm – the Ministry of Health had mentioned his masters thesis. Rawlings appeared in the north at short notice, and Bugri accompanied him to the villages his survey had identified as worst affected, where the presidential party was shown emerging worms and infested drinking water. Rawlings adopted guinea worm control as a personal cause, and Bugri was assigned to complete a countrywide survey. He subsequently became the national coordinator of Ghana's guinea worm eradication efforts, from the inception of the international programme in

123 Dr Sam Bugri, Interview, Tamale, 30 June 2015.
124 Ibid.

1987 to 1995, when he became Director of Public Health in Accra, one of few northerners to have held the position.

Although 'single actor' versions of history are inherently elisive, Sam Bugri played an important part in sustaining knowledge of and interest in the disease during a period when the northern health system had largely collapsed, and in overseeing eradication efforts once they began. My account here relies partly on interviews with Bugri himself, cross-checked with additional interviews with former health officials in Accra and Tamale, and with village groups across the north. His story suggests the extent to which an individual advocate, positioned within Ghana's cosmopolitan elite, could shape the extension of public health services in a remote region like the north. As a former Olympian, schooled at Achimota College and trained at international universities, Bugri had an access and influence which lay beyond the reach of most other northern health workers. Beyond this privileged position, however, he was also remembered kindly by a number of village communities, as an individual who came to collect information about severe levels of guinea worm infestation long before the eradication programme had begun. He relayed this information to health authorities, who responded by arranging health visits and the treatment of water supplies. In one village discussion about various diseases, the participants recalled that 'Dr Sam Bugri saved us from guinea worm', and the extent of his work on the problem was corroborated by former colleagues and past Directors-General of the Ghana Health Service.[125] Biographical material of this kind, derived from personal interviews, is difficult to integrate into an analysis which focuses on the overall health system over

125 See Dr Sam Adjei, Interview, Accra, 26 June 2016; Dr Frank Nyonator, Interview, Accra, 15 July 2015; Dr Moses Adibo, Interview, Accra, 17 June 2016; Dr Von Asigri, Interview, Tamale, 30 June 2015; Professor Fred Binka, Interview, Ho, 21 June 2016; Professor Fred Wurapa, Interview, Accra, 25 June 2015; And see community groups Group.01: Bongo Village (Guruni), Interview 27 July 2015; Group.16: Dagomba Community 1, Tamale Area, Interview 10 August 2015; Group.17: Dagomba Community 2, Tamale Area, Interview 10 August 2015; Group.18: Dagomba Community 3, Pong-Tamale, Interview 11 August 2015.

decades. But individuals like Bugri, or B.B. Waddy in the 1940s, at times played an important and singular part in the evolution of northern public health work, in a region that was seen as a career backwater and avoided by many other government health-workers.

The end of the worm: structural adjustment, foreign aid, and the eradication project

In the early 1980s, Bugri's 1970s survey was one of the only available sources of information on the state of guinea worm disease in Ghana. It was rapidly incorporated into the international eradication programme that began soon after Ghana's adoption of structural adjustment. The first proposals for global guinea worm eradication were made in 1980 by the Centres for Disease Control and Prevention (CDC) in the United States, although India had already started its own national programme that year. Ghana began national eradication work in 1985, in advance of the global initiative. Under the Rawlings government, in 1987 it became the second country after Pakistan to join the newly formed Guinea Worm Eradication Program, led by former US president Jimmy Carter's Carter Center, and supported by a range of western state donors, private companies, charities and the WHO.[126] The GWEP deployed several different strategies against the disease: educational programmes, the distribution of individual water filters (donated by DuPont & Co.), and the treatment of infested water systems with the larvicide ABATE (donated by American Cyanamid Co.).[127] In Ghana, the campaign also experimented with a novel worm-extraction method developed by Ayurvedic healers in India, which had been found effective in reducing the spread of the disease in Rajasthan. The Ayurvedic surgeon Bhanwar Lal

126 See World Health Organization, *Guinea-Worm Disease: Countdown to Eradication* (Geneva: World Health Organization, 2012); The Carter Center, 'Guinea Worm Eradication Program', accessed 27 August 2017, https://www.cartercenter.org/health/guinea_worm/.

127 Cairncross, Muller, and Zagaria, 'Dracunculiasis', 232–33.

Sharma was invited to northern Ghana in 1992, where he taught health workers a method for extracting the worm before it erupted through the skin: a small cut would be made, and the now-exposed head of the worm would be treated with an irritating plant oil, in some cases prompting it to come out by itself. There were attempts to develop a northern Ghanaian analogue of the oil used in India, which was promoted in the north under the name 'Tamale Oil', but the method was not uniformly successful.[128]

In the final stages of the campaign in Ghana, work became focused on village-by-village surveillance, and an extensive public information campaign. Posters were placed around the region, and jingles recorded for the radio, many based on a Dagomba song with the chorus 'guinea worm has no cure'. Printed cloths were made and distributed, showing the insignia of the campaign, a kind of heraldic crest that included a guinea worm. Substantial cash rewards (up to 100 cedis per worm) were offered for those who located and reported a case of the disease – stringent rules had to be applied when it was found that people were cutting worms into multiple sections and submitting each section for the reward.[129] In one of the more coercive aspects of the campaign, children were followed by medical staff to reveal which undiscovered water supplies they preferred swimming in. Guards were placed on some ponds and dams, and people were prevented from accessing the water.[130] Eventually the extent of guinea worm disease in northern Ghana was narrowed down to a few dams and ponds, which were treated with larvicide.[131] Despite some periods when infections were found to have increased, meaning that the deadline for elimination had extended, the programme

128 Some Dagomba communities remembered using this oil with some success. See Group.18: Dagomba Community 3, Pong-Tamale, Interview 11 August 2015; and Dr Sam Bugri, Interview, Tamale, 30 June 2015; 'Ayurvedic Surgeon Hooks out Guinea Worms', *Vrishti*, 31 March 1993.
129 Dr Von Asigri, Interview, Tamale, 30 June 2015; Dr Sam Bugri, Interview, Tamale, 30 June 2015.
130 The Carter Centre, 'Case Statement: Eradication of Guinea Worm Disease' (Atlanta: The Carter Center, 2016), 7; World Health Organisation, 'Countdown to Wipe out Guinea Worm in Ghana', *Bulletin of the World Health Organization* 87, no. 9 (September 2009): 645–732.
131 Cairncross, Muller, and Zagaria, 'Dracunculiasis', 237.

as a whole was successful. In 2010, Ghana recorded its final case of the disease, which for years had been located only in the north, and in 2015 the WHO certified that all of Ghana is free from guinea worm.[132]

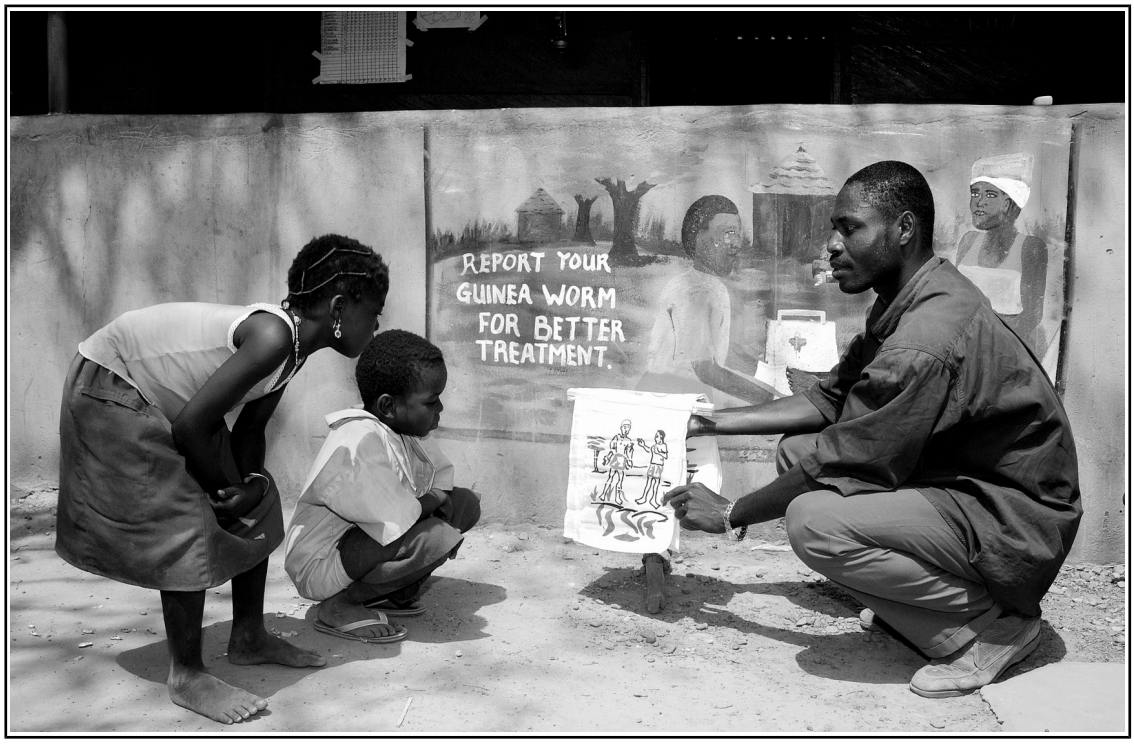

Figure 31. A village volunteer shows sketches and wall advertising, as part of the Guinea Worm Eradication Program, 2004.
Source: CDC and Carter Center / E.Poyo / 8221

132 The Carter Centre, 'Case Statement'.

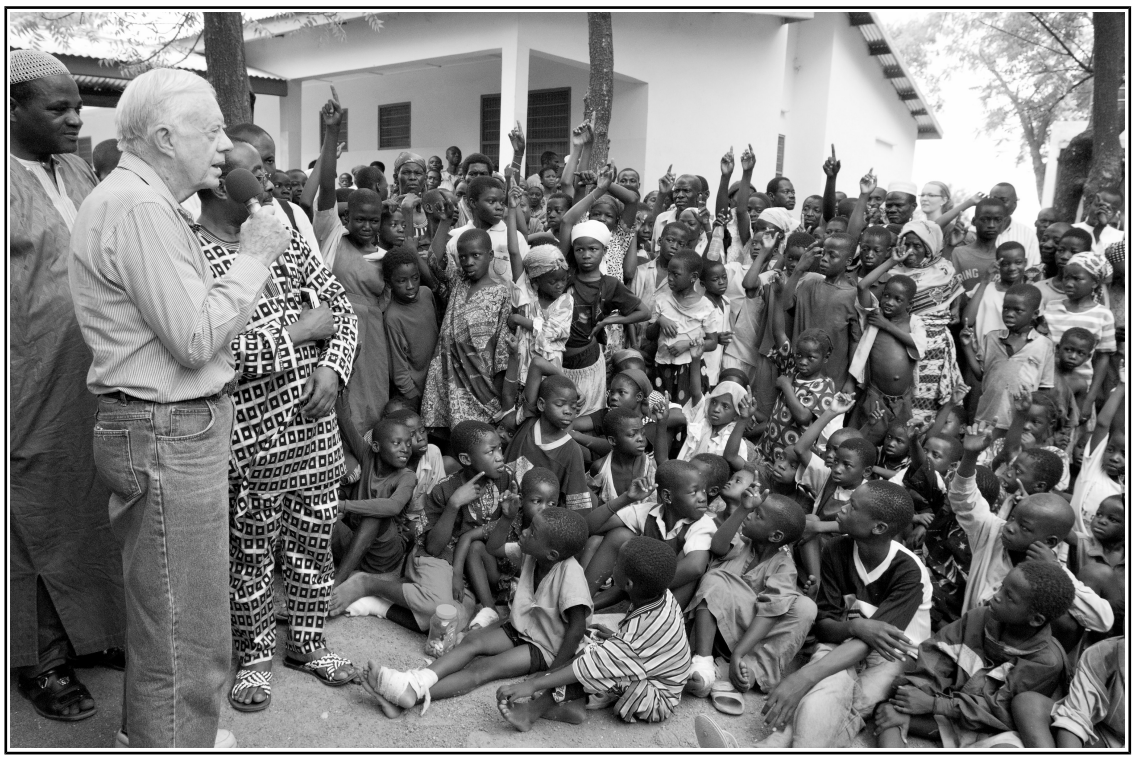

Figure 32. Savelugu, northern Ghana, 8 February 2007. In a publicity photograph for the eradication programme, ex-US President Jimmy Carters asks people if they have previously had the disease.
Source: Carter Center Public Health Image Library / Hp-01

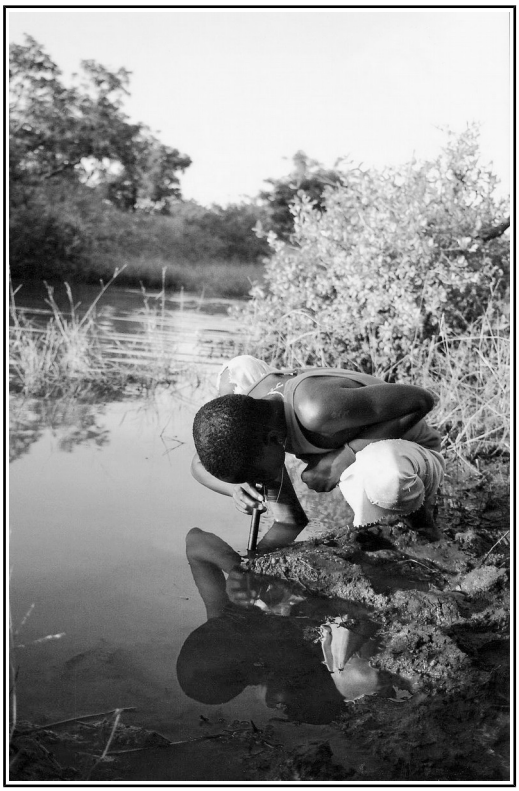

Figure 33. A girl drinks from a pond in northern Ghana, using a filtered drinking straw provided under the Guinea Worm Eradication Program, 2003.
Source: CDC and The Carter Center / E.Staub / 8219

Here it is interesting to consider the alignments between Ghana's adoption of structural adjustment, the start of the eradication programme, and a related influx of additional aid groups and bilateral development projects in the north. From the mid-1980s there was a rapid proliferation in the number of aid programmes under way in the region, funded by groups including the World Bank, USAID, the government of Germany and the Canadian International Development Agency. Their projects included the development of commercial agriculture and forestry, and the provision of potable water supplies: the government of Canada funded a ten year initiative to increase drinking water provision in the Northern Region, including the drilling of seventy high capacity boreholes. It also funded a Primary Healthcare Program, intended to address the peripheral situation of the north in terms of Ghana's public health system, and to 'reverse the present situation of medical specialization and urban emphasis resulting in 90 percent of health care expenditures benefiting approximately 10 percent of the population'.[133]

On the one hand, this influx of state-funded aid projects, including the GWEP, reflected the view that Ghana was now a more hospitable environment for bilateral aid projects (and private investors), following its acceptance of structural adjustment reforms. On the other hand, however, the increase in aid to the north came in response to the region's accelerating impoverishment in the face of the adjustment programme itself. Some of the countries and organisations involved in northern development work were also directly involved in the attempt to impose 'cost recovery' systems of healthcare – the hated 'cash and carry' system which reflected a turn away from the principal of free health care, and which put many forms of clinical medicine

133 WHO/JCP Volumes/5-6 (1980-85), 5–9.

beyond the reach of northern Ghanaians.[134] The major disease control projects of the 1980s and 1990s were hailed as a landmark for corporate responsibility, as DuPont and American Cyanamid Co donated filters and larvicides against guinea worm, and Merck & Co donated the drug Ivermectin to treat onchocerciasis. But the structural adjustment of the same period meant that Ghana had been opened to a trade liberalisation in which foreign companies usually set the terms. Recent research has shown the decline or stasis of the north during these years. A report from the UK Department for International Development (DFID) observed that 'it is strikingly clear that Northern Ghana grew little during the 1990s ... while the rest of the country benefited from the growth of Accra and the forest region'.[135] Access to electricity increased by only 2 percent for rural northerners between 1990 and 1999, while it rose by 25 percent for rural communities in the southern regions, and by 18 percent in Ashanti.[136] Over the same period, the percentage of Ghana's population with access to a government health facility (defined as a journey of 30 minutes or less) rose to more than 30 percent of the overall population, an average which was kept down by the three northern regions, where only 7 percent of people were able to reach a health facility in less than 30 minutes.[137] Crop production fell, rising costs decreased the attendance of northerners at clinical facilities, and extreme rural poverty was found to have increased. Jacob Songsore argues that in some villages, the SAP-mandated turn to charging for clean water provision – with village pumps dismantled by officials of the Ghana Water and

134 See Chapter 5, and for a broader discussion of guinea worm control in the structural adjustment era, see Watts, 'Perceptions and Priorities'.
135 DFID, 'Economic Growth', 10.
136 Ibid., 10–11.
137 Claus C. Portner and Sudharshan Canagarajah, 'Evolution of Poverty and Welfare in Ghana in the 1990s : Achievements and Challenges' (The World Bank, 1 October 2003), 12.

Sewerage Corporation if payment was not made – drove communities to drink from infested water sources that they had previously learned to avoid.[138]

These new economic conditions also shaped the eradication campaign. When states stalled in their commitments to support Ghana's overall health sector during the structural adjustment transition, money for the guinea worm campaign was abruptly cut to focus on the provision of curative treatment at fixed government facilities, resulting in a doubling of guinea worm cases between 1998 and 1999.[139] As Susan Watts observed in 1998, 'in an era of Structural Adjustment Programs, when the IMF and World Bank demand that debt repayment to first world creditors has priority over local health and educational needs, dracunculiasis campaigners have to cut their clothes to suit their cloth ... most grass roots village health workers in the eradication programs are volunteers'.[140] In northern Ghana, these volunteers were supposed to focus specifically on the Carter Center's Guinea Worm Control Program, which resisted requests for them to participate in other public health activity. However, as with the Medical Field Units, which began as part of the colonial sleeping sickness campaign, the volunteers rapidly became an important part of the region's broader rural health service, distributing minor treatments and monitoring the incidence of diseases, at a time when there were few other ways for village communities to make their basic health needs known.[141]

138 Jacob Songsore, 'The Economic Recovery Program/Structural Adjustment Program; Its Likely Impact on the "Distant" Rural Poor in Northern Ghana', in Saaka, *Regionalism and Public Policy*, ch.10; Portner and Canagarajah, 'Evolution of Poverty and Welfare in Ghana in the 1990s', 15.
139 Cairncross, Muller, and Zagaria, 'Dracunculiasis', 242–43.
140 Watts, 'Perceptions and Priorities', 807.
141 Dr Sam Bugri, Interview, Tamale, 30 June 2015; Dr Von Asigri, Interview, Tamale, 30 June 2015.

Conclusion

For northern Ghana in the 1980s, much of the legwork for the eradication of a long-standing and economically limiting disease was done by a network of unpaid villagers, as local poverty increased due to the affects of economic restructuring, while some of the bilateral donors who had imposed this restructuring heralded their own achievements in eliminating guinea worm. As Eileen Choffnes observes in her report on a symposium of public health engineers held in 2010, neglected tropical diseases characteristically affect those who lack a political voice, and this may be their principal defining feature. Choffnes notes that 'in the past, their serious impact on health and productivity led to considerable knowledge about these diseases, and effective control tools were developed for many. As living conditions improved in many parts of the world, the opportunities for transmission were drastically reduced. As a result, these diseases are now rarely seen in populations that enjoy good access to health services and a reasonable standard of living'.[142]

In this way, the history of guinea worm in Ghana shows how a disease becomes marginalised within a state, rather than globally. What in the early 1900s had been a 'tropical disease' of great interest to Accra governments – one known to cause painful disability and economic hardship, which affected members of coastal communities and raised significant concerns about lost revenues – had by the end of the century become a 'neglected tropical disease' occurring mostly in the north, requiring intervention by donors and non-governmental organisations. Although it remains impossible to calculate the impacts of almost a century of widespread (or absent) guinea worm disease on north-south divergence, the sources in this chapter suggest that

142 Choffnes et al., *The Causes and Impacts of Neglected Tropical and Zoonotic Diseases*, 28.

these impacts were significant, and may not have been adequately accounted for in previous assessments of the regions' trajectories.

This history also shows the decline of national health services capacity in Ghana, and to some extent the later decline of authority for transnational institutions like the WHO, which in earlier decades had enlisted state funding to achieve the eradication or control of diseases like smallpox and onchocerciasis in Ghana. By the 1990s, with a changing economic order and post-Cold War political conditions, this role was being supplanted by private organisations like the Carter Center, backed by donor states and private philanthropists. Vernick and Webb argue that this period marked a shift in the political and ideological basis for global health: 'with the creation of the Bill and Melinda Gates Foundation [1994], the role of private philanthropy in global health surpassed that of bilateral foreign aid, the WHO, and other organizations. This has heralded a new world health order'.[143] Organisations like the Gates Foundation now occupy a comparable position to the Rockefeller Foundation in the 1920s, at the height of the gilded age and prior to the creation of transnational bodies like the WHO. Having been neglected for almost a century, despite periods of intense advocacy on the part of some officials, the disappearance of guinea worm in northern Ghana eventually played out against the backdrop of this change.

143 Giles-Vernick and Webb, *Global Health in Africa*, 11.

CONCLUSION

A study of this kind has some evident limitations. Focused on changes in public health work over a long period of time, and on the relationship between two regions, the thesis has generally approached northern Ghana and its people in aggregate: a territory with a distinct climate, terrain and disease pattern, and a population speaking a distinct group of languages, located on the margins of Ghana's economy and politics from 1902 to the present. As such, the thesis has not consistently accounted for the north's varied internal life – the distinctions between ethnic communities, between the region's administrative subdivisions, or between the experiences of people in different northern districts, perhaps with a better local hospital, more rural health-workers, or a more activist political representative than others. The study has not addressed the experience of northerners in the southern health system, which many encountered as migrant workers from the early 1900s onwards; this would be an interesting area for further research. It has not examined other areas or communities that were also persistently situated on the periphery of the Gold Coast and Ghana, although these certainly existed, notably in parts of the Volta and Brong Ahafo regions bordering the north. Apart from the aggregate class divide between north and south, the thesis does not engage closely with either class or gender as organising principles for its analysis. Particular health needs, relative access to healthcare, and the possibilities for employment in and influence on the health system were different for northern men and woman – and for poor or wealthy northerners – across the century. These aspects of the region's public health history open further avenues for research, as does the relationship between local health services and the urban-rural divide. Although the south was significantly more urbanised, the north had its urban centres too. Future

research might examine the extent to which northern urban populations, with their own relative concentrations of wealth and political influence, acted as barriers, gatekeepers, or enablers for the regional expansion of health services.

More broadly, the study's attention to the long-term history of public health means that the finer details of historical experience are necessarily elided at some points. Many of its sources were generated by colonial and postcolonial governments, or by transnational organisations like the WHO, focused on whole populations. There are regrettably few available documentary sources, particularly for the colonial period but also for much of the time after independence, which present the view of northern communities regarding the evolution of their health system. The thesis has therefore attempted to support the documentary sources with interview testimony from communities and individual health practitioners, making use of recollections from the late colonial period to the present.

As far as possible, I have tried to integrate findings about the social history of health work into a discussion of the region-wide evolution of public health services and institutions. These include observations about disease control among northern communities: the panic and concealment that resulted from forced vaccination during the Smallpox Eradication Programme, for example; the similar trepidation when helicopters marked 'ONCHO' appeared over the horizon, spraying larvicide during the Onchocerciasis Control Programme; or how guinea worm control was facilitated by a publicity campaign which included radio jingles, wax-printed cloths, and rewards for those who handed in a full worm. The study has also examined the role of individual health workers, and the diffusion of particular medical theories, in shaping public health activity in a remote region. Local advocates, like B.B. Waddy in the colonial period, and Dr Sam Bugri after independence, at times played an important role in

calling attention to previously neglected northern diseases. At other points, the metropolitan focus of local medical science meant that serious public health problems were ignored, as in the case of onchocerciasis. Although the Gold Coast hosted several foundational studies regarding the disease, its serious health impacts in the north went unrecognised or ignored until the end of colonial rule. Another result of the region's isolation was that individuals like K.R.S. Morris, head of the Tsetse Control Department, were able to act upon their medical theories with relatively little oversight. Morris's bush clearing and resettlement programme was successful in reducing the spread of sleeping sickness in the 1940s. But it was based on a flawed premise, and ignored local African knowledge about disease. By building dams and access roads on cleared rivers, and relocating communities into valleys which had supposedly been 'freed' from sleeping sickness, the campaign appears to have inadvertently and significantly increased people's exposure to onchocerciasis.

Over the transition to independence, northern Ghana was recognised as having the most serious burden of onchocerciasis in Africa, although systemic control work only began in the 1970s. The chapters on colonial sleeping sickness and post-independence onchocerciasis control chart connections between public health activity in different periods, showing the unintended outcomes of past interventions driven by the state's prevailing economic preferences. In the case of sleeping sickness, the bush clearing campaign was seen by the Gold Coast government as a way to boost local agricultural production and regional revenues, and of redistributing the northern frontier population towards the southern labour markets. Late colonial dam-building programmes may also have contributed to widespread guinea worm infection in the north, a disease which only received concerted attention in the 1980s.

The three chapters on particular disease control programmes, and the three chapters on the development of healthcare institutions, have each charted the involvement of international organisations in northern healthcare. These organisations included the British Empire Society for the Blind, now the international charity called Sightsavers. With influence in London, and relatively unconstrained by the local politics of the Gold Coast, the society was instrumental in drawing attention to the north's onchocerciasis emergency. However, through its widely-emulated international fundraising work, which used northern Ghana's 'Valleys of the Blind' as a central exemplar, the society also contributed to an enduring representation of rural African communities as inherently diseased and helpless. The thesis has discussed the growing involvement of the World Health Organisation in northern healthcare after independence, and its influence on Ghana's national health policies. The WHO's institutional knowledge of northern health problems was maintained across political transitions and local recessions, as were its local staff, during periods of rapid staff turnover in Ghana's own health services – and a significant number of Ghanaian staff left the national service to take up work with the WHO. Perhaps as a result, the WHO assumed an increasing degree of authority over some aspects of Ghana's health system from the mid-1960s, and particularly during the 1970s, as recession and political instability undermined what remained of the social-democratic developmental state envisioned by Nkrumah and independence-era voters. In the final two chapters I have also examined the proliferation of bilateral donor agencies, private philanthropic health organisations and NGOs in northern healthcare from the 1980s. This was a result of Ghana's turn to structural adjustment: the increased presence of these organisations in the north was shaped by the premise that because Ghana had liberalised its economy through adjustment, it was now to be assisted with rural health and other development

projects, often brokered by the agencies of states that had insisted on economic liberalisation. But northern poverty increased sharply during the adjustment era, and instead of rectifying the health service problems of the past, these newly-arrived international organisations were often working to mitigate the negative public health effects of adjustment itself.

The thesis has also developed a historical account of the political economy of northern Ghana's public health institutions. This includes a discussion of the Native Authority health system, which developed rapidly in the 1930s after a sustained period of neglect by the central government. Native Authorities became the most efficient and far-reaching providers of healthcare to rural northern communities for much of the colonial period – showing the persistent importance of local initiative and agency in shaping healthcare on the economic margins, and a contradiction of the argument that indirect rule Native Authority necessarily devolved into a form of local despotism. Following the 'Navrongo Experiment' of the 1990s, some of the structures of Native Authority healthcare were recapitulated in Ghana's current Community-Based Health Planning system, which once again recognised the value of traditional leaders and village social networks in the effective provision of health services.

As part of this long-term history of public health institutions, the thesis identifies key developments that accompanied the transition to independence, a period of northern health history which has not previously been studied in great detail. These developments included the gradual dissolution of Native Authority (or subsequently Local Authority) health services, as authority for healthcare was centralised in Accra, and the transfer of northern health facilities to mission control. This created what many communities perceived as a competing health provider, and potentially increased the religious and political influence of local churches, who are still the leading providers of

healthcare in some districts. The study discusses how the mass departure of colonial medical personnel created an informational gulf at independence, undermining the state's institutional memory of northern health problems. Attempts to expand health services under the first independent government were limited by significant shortfalls in available staff, a problem which became more acute as the economy faltered in the 1960s. In the period from 1966 to 1981, successive overthrows of the central government further disrupted the provision of northern healthcare and politicised the staffing of health services, as Ghana's overall health system faced critical problems with the supply of basic drugs and medical equipment. Despite these significant difficulties, some of the north's public health institution continued to work effectively. Founded in the colonial era and largely staffed by northerners without formal medical qualifications, the Medical Field Units functioned as a crucial ark of local knowledge across the independence divide. From the 1940s to the early 1980s, the MFUs were the principal or only conduit for government health services to many rural communities.

Across all chapters, my analysis has been shaped by the recognition of northern Ghana's enduringly peripheral relationship to the south, which to some extent replicated Ghana's own peripheral situation in the world economy. In both the colonial and postcolonial state, when global or domestic events forced the government to cut spending on health services, the worst effects of austerity were consistently passed to northern communities. Over the early colonial period, as the region became a central source of cheap labour for the southern economy, it also became seen as a zone of contagion which posed a risk to the south's centres of economic production, and northerners were sometimes depicted as inherently diseased or second-class citizens. From the 1920s onwards, many reports observed that northerners faced the heaviest disease burden of any population in the country, with lower life expectancies, higher

infant mortality, higher malnutrition, and fewer opportunities to access government healthcare. There were numerous episodes of advocacy over the century, when concerned local officials and northern leaders protested what they saw as an unjust allocation of public health services between north and south. But this advocacy brought little change, for a region and people that remain geographically, culturally, politically and economically isolated from the main centres of power in Ghana.

Despite the difficulties and inequities discussed above, it must be emphasized that while the history of public health in twentieth-century northern Ghana is evidently not a straightforward narrative of progress, neither is it a narrative of decline. There was no prelapsarian moment when northern communities were free from disease – many village groups considered that the region's current health services are better than at any other time they can recall, and some infectious diseases no longer pose a significant risk.[1] There is a relatively substantial body of historical research on health in Ghana, but there has been little disaggregation of the north. By focusing on the region and its long-term relationship with the south, and by bringing new sources to bear on the subject – interviews, documents from the northern and Accra archives, and WHO files which have not been used in previous research on the country – it is hoped that this study makes some contribution to the broader literature on public health in Ghana, and to the particular historiography of the north.

1 See, for example, Group.14: Piisi Wala Community, Wa Area (Wala), Interview 8 August 2015; Group.08: Dulugu Village (Guruni), Interview 29 July 2015; Group.07: Zuarungu Village (Guruni), Interview 29 July 2015.

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